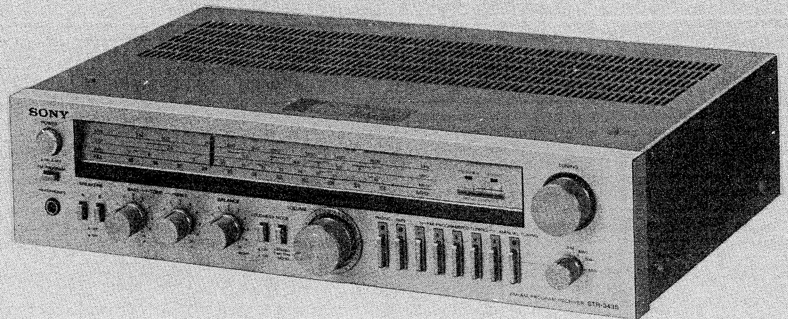
STR-343S

E Model



FM-AM PROGRAM RECEIVER

SPECIFICATIONS

FM tuner section

Tuning range	87.5–108 MHz
Antenna terminals	300 ohm balanced 75 ohm unbalanced
Intermediate frequency	10.7 MHz
Sensitivity at 50 dB quieting	3.5 μV, 16.1 dBf (mono) 45 μV, 38.3 dBf (stereo)
Usable sensitivity	IHF 1.8 μV, 10.3 dBf
Signal-to-noise ratio	75 dB (mono), 70 dB (stereo)
Harmonic distortion	0.2% (mono), 0.3% (stereo), at 1 kHz
IM distortion	0.2% (mono), 0.3% (stereo)
Separation	45 dB at 1 kHz
Frequency response	30 Hz–15 kHz $^{+0.5}_{-2}$ dB
Alternate channel selectivity	60 dB (400 kHz)
Capture ratio	1.5 dB
AM suppression ratio	54 dB
Image response ratio	45 dB
Spurious response ratio	70 dB
Muting threshold	Approx. 5 μV

SW/MW tuner section

	SW_1	SW_2	MW
Tuning range	2.3–6.2 MHz	7–17.9 MHz	522–1,602 kHz
Antenna	External antenna terminal		Built-in ferrite rod antenna. External antenna terminal
Intermediate frequency	450 kHz		
Usable sensitivity	30 μV, external antenna (4 MHz)	30 μV, external antenna (12 MHz)	250 μV/m, built-in antenna (1,000 kHz) 100 μV, external antenna (1,000 kHz)
Signal-to-noise ratio	52 dB (5 mV)		52 dB (50 mV/m)
Harmonic distortion	0.3% (5 mV, 400 Hz)		0.3% (50 mV/m, 400 Hz)
Selectivity	30 dB (9 kHz)		35 dB (9 kHz)

– Continued on page 2 –

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY SHADING AND MARK ⚠ ON THE SCHEMATIC DIAGRAMS, EXPLODED VIEWS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

SONY®

SERVICE MANUAL

Amplifier section

Continuous RMS power output (less than 0.08% THD, both channels dirven simultaneously)

at 20 Hz–20 kHz
30 + 30 watts (8 ohms)
at 1 kHz
33 + 33 watts (8 ohms)

Dynamic power output (IHF constant power supply method)
95 watts (8 ohms)

Power bandwidth (IHF)
15 Hz–35 kHz

Damping factor	30 at 1 kHz, 8 ohms
Harmonic distortion	Less than 0.08% at rated output Less than 0.05% at 1 W output

Intermodulation (IM) distortion (60 Hz : 7 kHz = 4:1)
Less than 0.08% at rated output
Less than 0.05% at 1 W output

Residual noise	Less than 0.05 μW at 8 ohms

Inputs

	Sensitivity	Impedance	S/N	Weighting network
PHONO	2.5 mV	50 kilohms	75 dB	A
TAPE	150 mV	50 kilohms	95 dB	A

Measured with rated output power into 8-ohm loads (both channels driven simultaneously) at 1kHz.

Outputs (with rated input)

REC OUT	Voltage 150 mV	Impedance 10 k ohms
HEADPHONES	Accepts all low or high impedance headphones.	
SPEAKER	8–16 ohm speakers are suitable.	

Frequency response	PHONO RIAA equalization curve ±0.5 dB TAPE 10 Hz–50 kHz $^{+0}_{-3}$ dB
Tone controls	BASS ±8 dB at 100 Hz TREBLE ±8 dB at 10 kHz

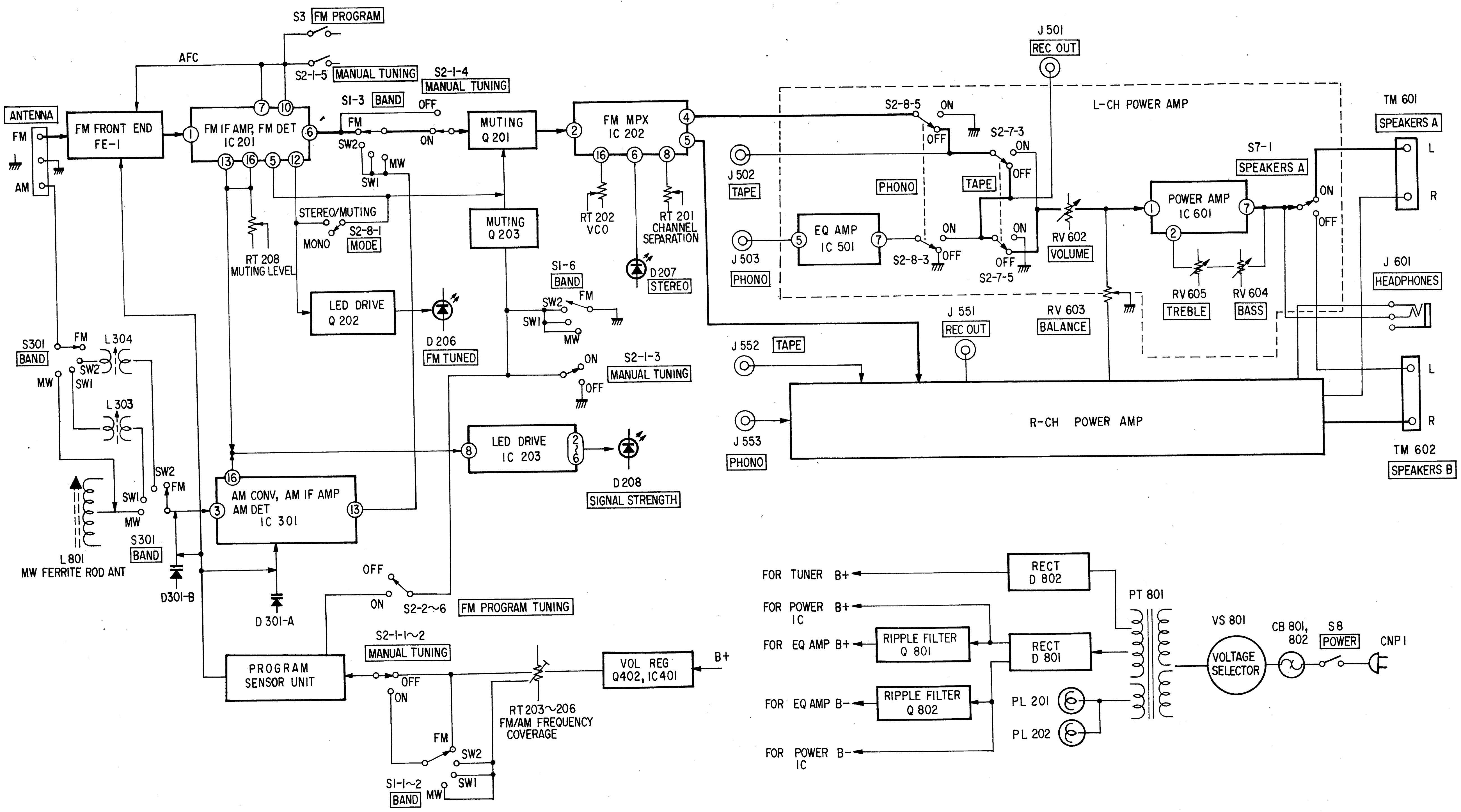
Loudness control (att. 30 dB)
+ 8 dB at 100 Hz

General

System	Superheterodyne FM/AM tuner, Direct coupled quasi-complementary symmetry power amplifier circuit (SEPP OTL)
Power requirements	120, 220, or 240 V ac adjustable, 50/60 Hz
Power consumption	160 W
AC outlets	Two unswitched, total 200 W
Dimensions	Approx. 430 × 110 × 315mm (w/h/d) (17 × 4¼ × 12⅜ inches) including projecting parts and controls
Weight	Approx. 7.2 kg (15 lb 15 oz) net Approx. 8.7 kg (19 lb 3 oz) in shipping carton

SECTION 1
OUTLINE

1-1. BLOCK DIAGRAM


S3 FM PROGRAM
AFC
S2-1-5 MANUAL TUNING
S2-1-4 MANUAL TUNING
ANTENNA
FM
AM
FM FRONT END
FE-1
FM IF AMP, FM DET
IC 201
S1-3 BAND
OFF
FM
ON
SW2
SW1
MW
MUTING
Q 201
FM MPX
IC 202
RT 202
VCO
RT 201
CHANNEL
SEPARATION
D 207
STEREO
STEREO/MUTING
MONO
S2-8-1
MODE
RT 208
MUTING LEVEL
MUTING
Q 203
LED DRIVE
Q 202
D 206
FM TUNED
S1-6
BAND
S2-1-3
MANUAL TUNING
S301
BAND
L 304
L 303
LED DRIVE
IC 203
D 208
SIGNAL STRENGTH
AM CONV, AM IF AMP
AM DET
IC 301
L 801
MW FERRITE ROD ANT
D301-B
D 301-A
S2-2~6
FM PROGRAM TUNING
PROGRAM
SENSOR UNIT
S2-1-1~2
MANUAL TUNING
RT203~206
FM/AM FREQUENCY
COVERAGE
VOL REG
Q402, IC401
B+
S1-1~2
BAND
J 501
REC OUT
L-CH POWER AMP
S2-8-5
S2-7-3
J 502
TAPE
PHONO
TAPE
J 503
PHONO
EQ AMP
IC 501
S2-8-3
S2-7-5
RV 602
VOLUME
S7-1
SPEAKERS A
POWER AMP
IC 601
RV 605
TREBLE
RV 604
BASS
RV 603
BALANCE
J 551
REC OUT
J 552
TAPE
J 553
PHONO
R-CH POWER AMP
TM 601
SPEAKERS A
L
R
J 601
HEADPHONES
TM 602
SPEAKERS B
FOR TUNER B+
FOR POWER B+
IC
FOR EQ AMP B+
FOR EQ AMP B-
FOR POWER B-
IC
RECT
D 802
RIPPLE FILTER
Q 801
RECT
D 801
RIPPLE FILTER
Q 802
PL 201
PL 202
PT 801
VS 801
VOLTAGE
SELECTOR
CB 801,
802
S8
POWER
CNP1

1-2. SERVICING NOTE

MELF (Metal Electrodes Face-Bonding) Components

> **Warning**
>
> If MELF components are forcibly removed from the printed circuit board with pincers or pliers, the circuit board pattern is likely to peel away. Always remove MELF components according to the procedure described on the next page. Replace MELF components with the lead type components.

MELF components are soldered directly to the surface of the printed circuit board.

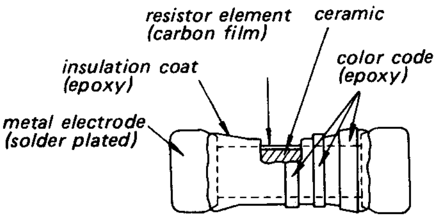
MELF resistors and capacitors have the same dimensions and are distinguished by their background colors: light brown for resistors, and pink or light green for capacitors.

The MELF resistor color coding is the same as for conventional resistors, and MELF capacitor color coding is the same as for tube-type ceramic capacitors. Note, however, that all MELF resistors are rated at ¼W and ±5%.

Components larger than resistors and without a color code are cross conductors, which are used instead of jumper wires.

1. Structure

(Resistors)


resistor element
(carbon film)
ceramic
insulation coat
(epoxy)
color code
(epoxy)
metal electrode
(solder plated)

(Capacitors)

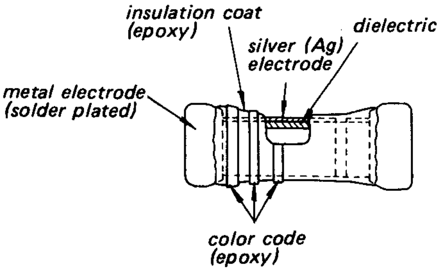
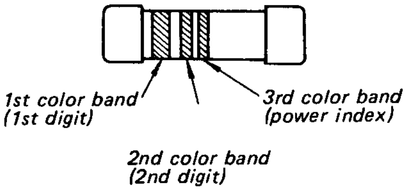
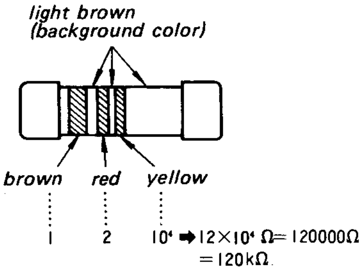

insulation coat
(epoxy)
dielectric
silver (Ag)
electrode
metal electrode
(solder plated)
color code
(epoxy)

Fig. 1

2. Color Code Reading


1st color band
(1st digit)
3rd color band
(power index)
2nd color band
(2nd digit)

(Example of Resistor)


light brown
(background color)
brown
red
yellow
1
2
10⁴ ➡12×10⁴ Ω=120000Ω
=120kΩ

(Example of Capacitor)

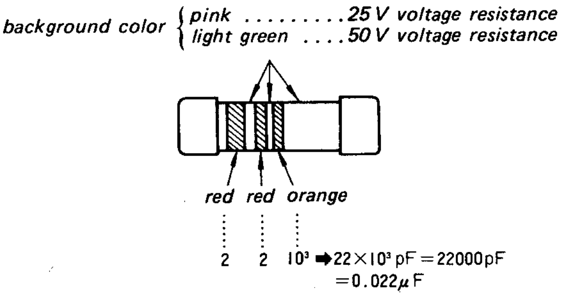

background color
pink ....25 V voltage resistance
light green ....50 V voltage resistance
red
red
orange
2
2
10³ ➡22×10³ pF=22000pF
=0.022μF

Fig. 2

3. How to Remove MELF Components and Mount Replacements

Use a soldering iron of at least 40W with an iron tip 4 mm in diameter and file the tip down to the angle shown in the diagram.

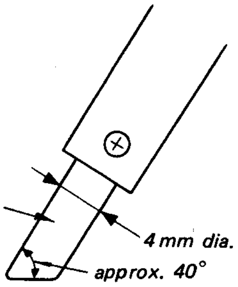

iron tip
4 mm dia.
approx. 40°

Fig. 3

1. Bring the flat surface of the soldering iron in equal contact with both soldered ends of the component.
2. The solder should melt in about 4 seconds. (The solder will melt more readily if a small amount of solder is attached to the iron tip and the iron tip is placed against the component.)
3. Once the solder has melted, tap the component aside with the tip of the soldering iron, and remove it from the board.

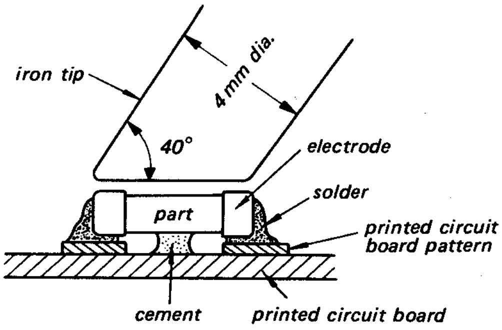

iron tip
4 mm dia.
40°
electrode
solder
part
printed circuit board pattern
cement
printed circuit board

Fig. 4

4. Use lead type resistors or capacitors to replace the MELF components.
These replacements may be mounted either with short leads (see Fig. 5), or by covering a lead with tubing (see Fig. 6).

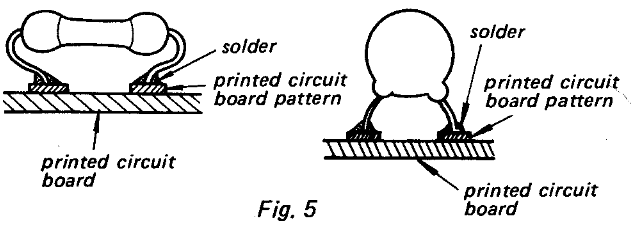

solder
printed circuit board pattern
printed circuit board
solder
printed circuit board pattern
printed circuit board

Fig. 5

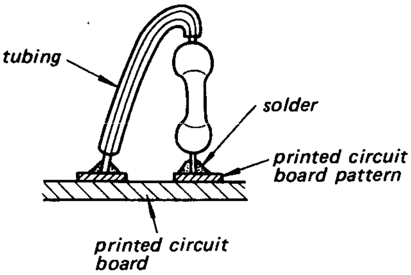

tubing
solder
printed circuit board pattern
printed circuit board

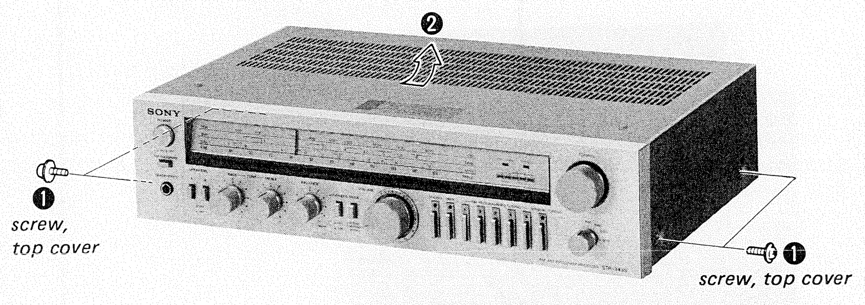
Fig. 6

SECTION 2
DISASSEMBLY

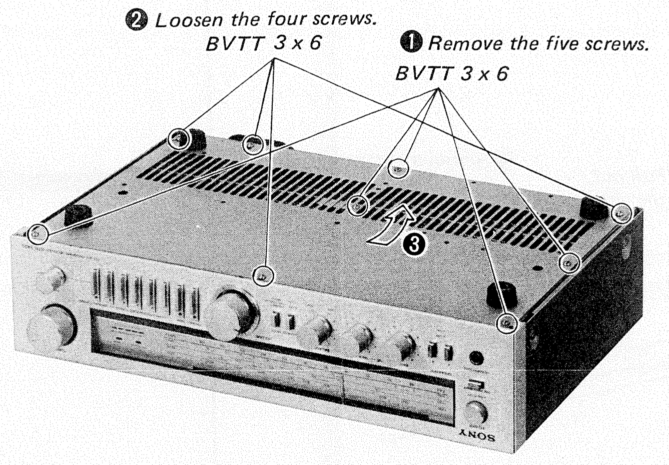
2-1. REMOVAL

Note: Follow the disassembly procedure in the numerical order given.

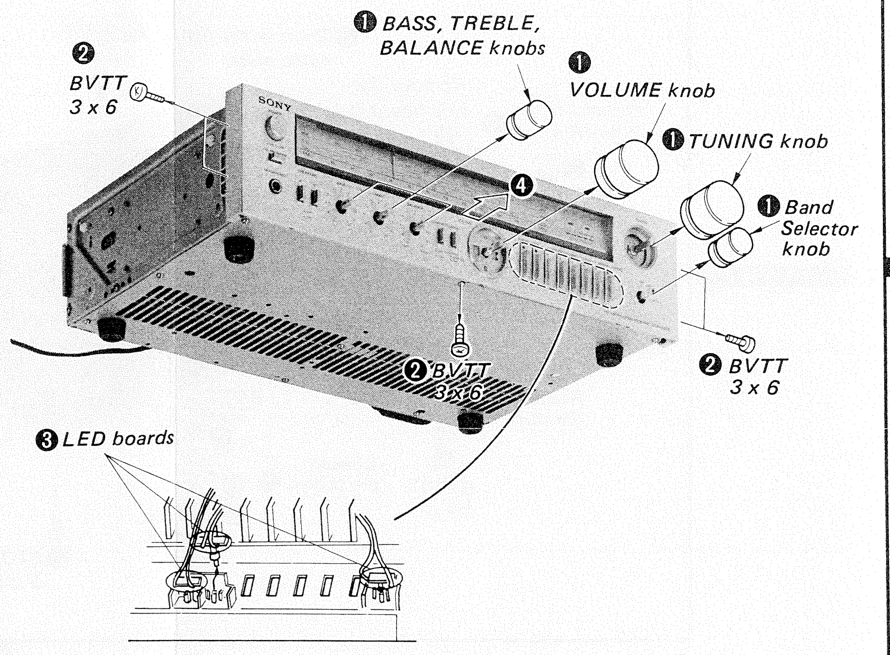
Top Cover Removal


②
①
screw,
top cover
screw, top cover
①

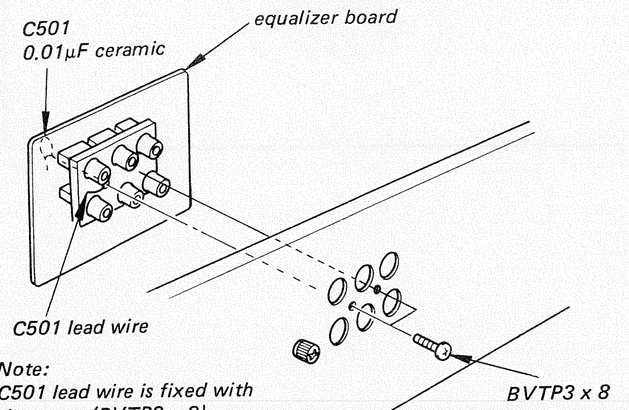
Bottom Plate Removal


② Loosen the four screws.
BVTT 3 x 6
① Remove the five screws.
BVTT 3 x 6
③

Front Panel Removal

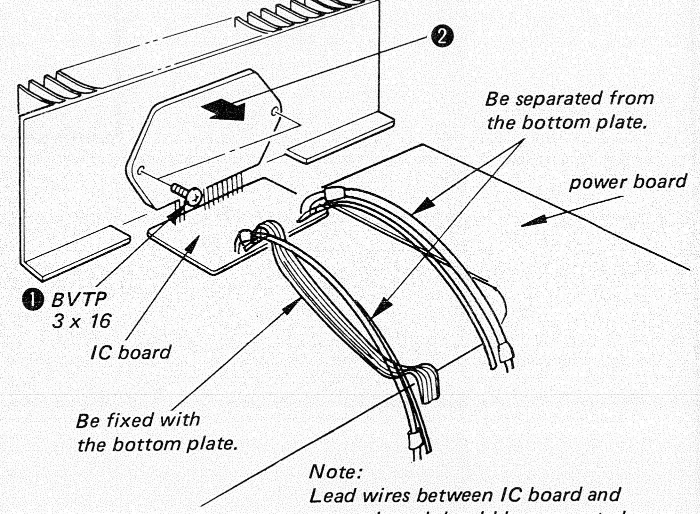

①BASS, TREBLE,
BALANCE knobs
②
BVTT
3 x 6
①
VOLUME knob
①TUNING knob
① Band
Selector
knob
④
②BVTT
3x6
②BVTT
3 x 6
③LED boards

Equalizer Board Removal


C501
0.01μF ceramic
equalizer board
C501 lead wire
BVTP3 x 8

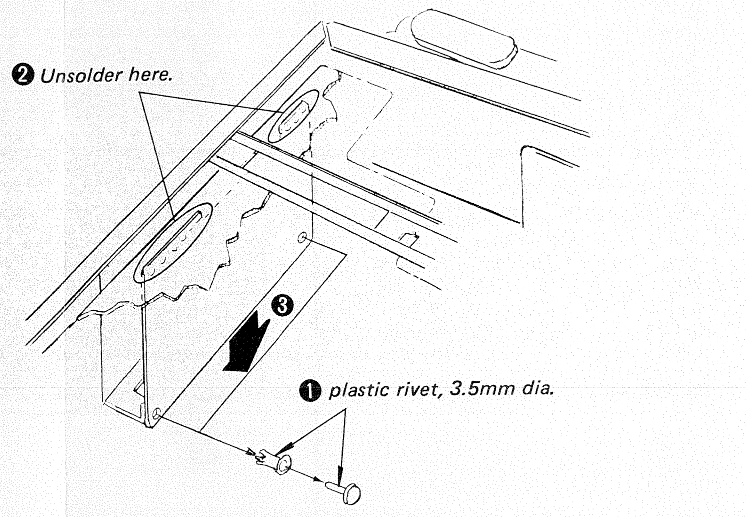
Note:
C501 lead wire is fixed with the screw (BVTP3 x 8).
This lead wire may snap off when you loosen the screw to remove the equalizer board.
So, replace C501 when removing the equalizer board.
If C501 is grounded to some other places, S/N ratio decreases.

IC Board Removal

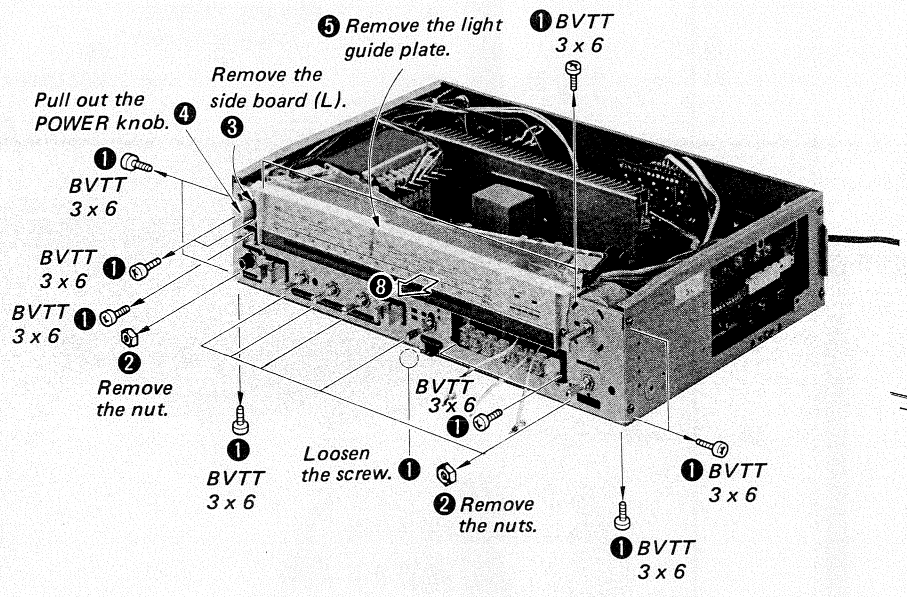

②
Be separated from
the bottom plate.
power board
① BVTP
3 x 16
IC board
Be fixed with
the bottom plate.

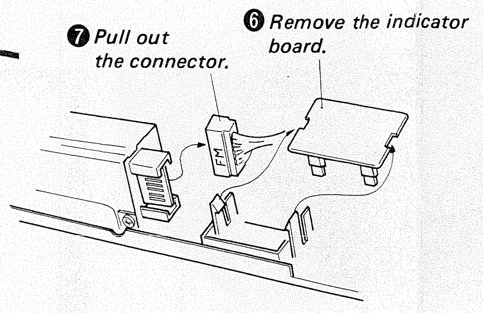
Note:
Lead wires between IC board and power board should be connected as shown above. This work has influence on S/N ratio.

AM Board Removal

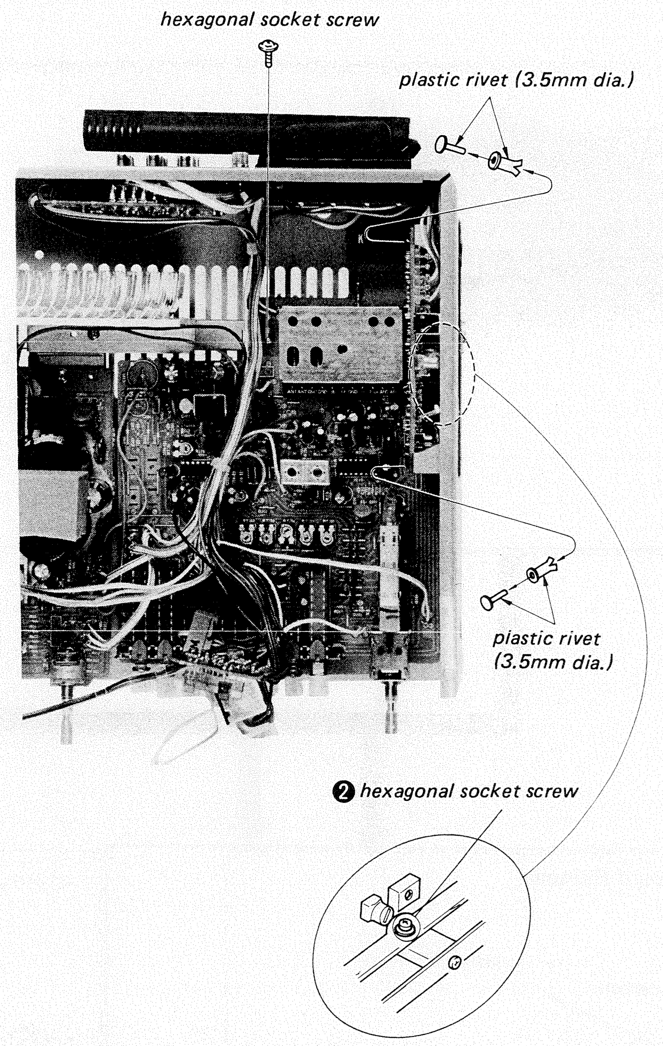

② Unsolder here.
③
① plastic rivet, 3.5mm dia.

Sub-panel Removal

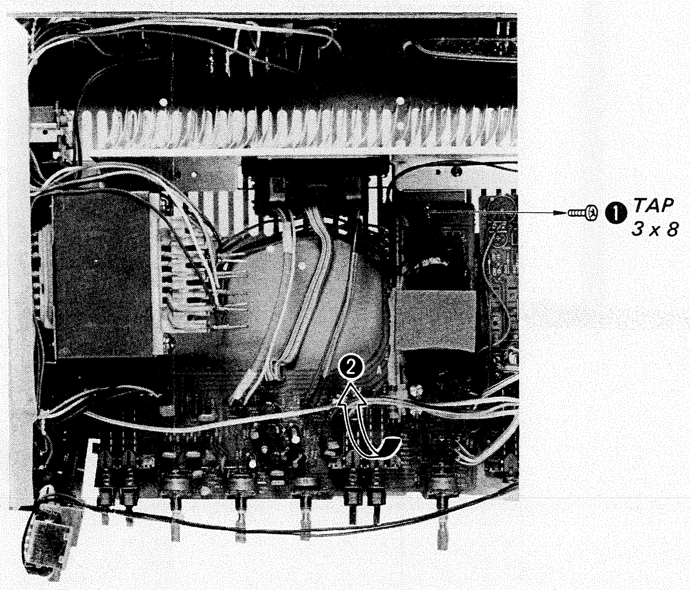

❺ Remove the light guide plate.
❶ BVTT 3 x 6
Remove the side board (L). ❸
Pull out the POWER knob. ❹
❶ BVTT 3 x 6
BVTT 3 x 6 ❶
BVTT ❶ 3 x 6
❷ Remove the nut.
❽
BVTT 3 x 6 ❶
❶ BVTT 3 x 6
Loosen the screw. ❶
❷ Remove the nuts.
❶ BVTT 3 x 6
❶ BVTT 3 x 6


❼ Pull out the connector.
❻ Remove the indicator board.

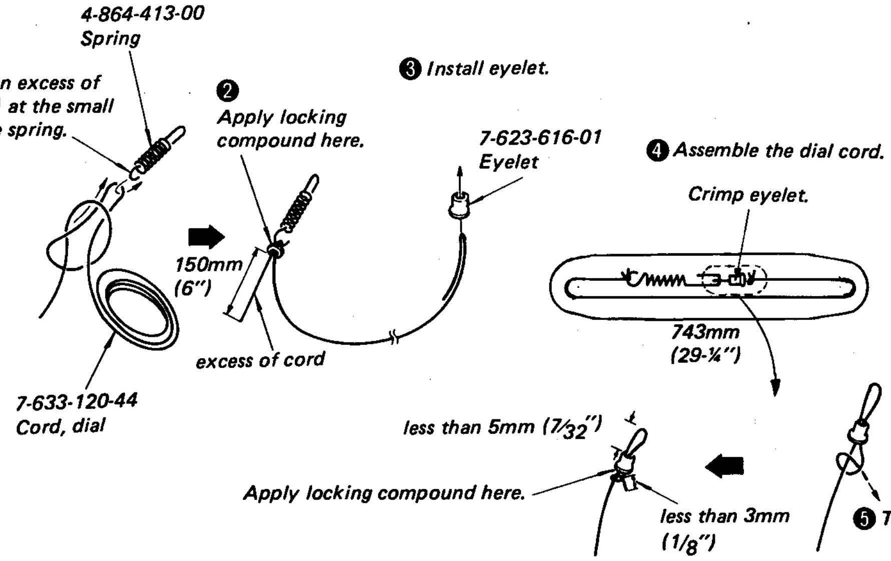
Tuner Board Removal


hexagonal socket screw
plastic rivet (3.5mm dia.)
plastic rivet (3.5mm dia.)
❷ hexagonal socket screw

Power Amp Board Removal



2-2. DIAL CORD STRINGING



① Tie the dial cord with an excess of more than 150mm (6") at the small hooking-ring end of the spring.

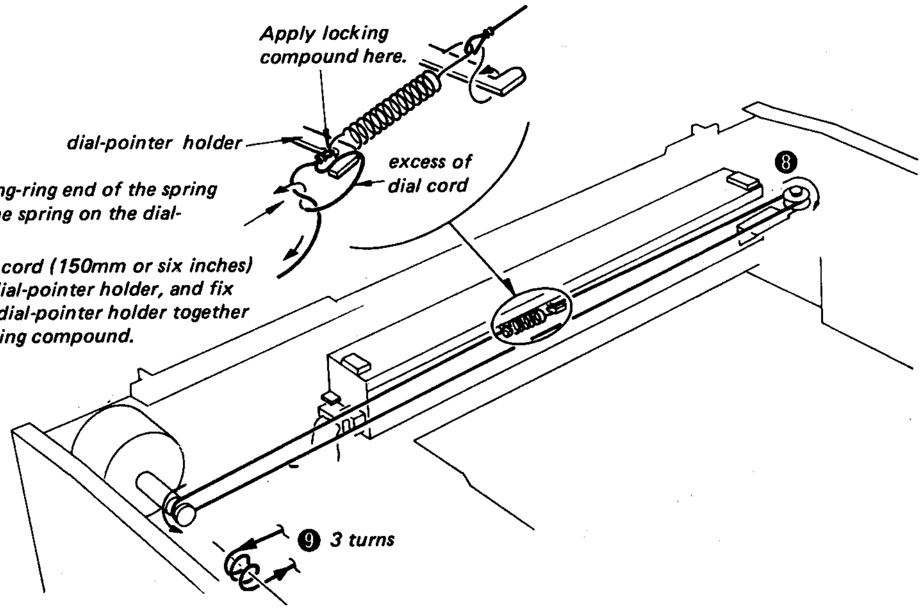
② Apply locking compound here.

③ Install eyelet.

④ Assemble the dial cord.

⑤ Tie the cord.

4-864-413-00
Spring
7-633-120-44
Cord, dial
150mm
(6")
excess of cord
7-623-616-01
Eyelet
Crimp eyelet.
743mm
(29-¼")
less than 5mm (7/32")
Apply locking compound here.
less than 3mm
(1/8")



⑥ Position the small hooking-ring end of the spring at this side, and install the spring on the dial-pointer holder.

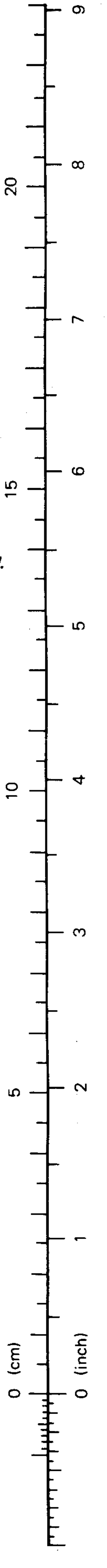
⑦ Tie the excess of the dial cord (150mm or six inches) by one turn around the dial-pointer holder, and fix the dial cord, spring and dial-pointer holder together by applying suitable locking compound.

⑧

⑨ 3 turns

⑩ Verify that the dial pointer moves to the right when the TUNING knob is turned clockwise and that the TUNING knob turns smoothly.

Apply locking compound here.
dial-pointer holder
excess of dial cord



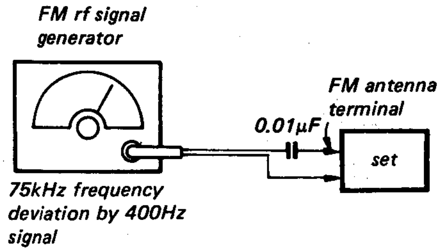
0 (cm)
5
10
15
20
0 (inch)
1
2
3
4
5
6
7
8
9

SECTION 3
ADJUSTMENTS

FM SECTION

Setting:

MANUAL TUNING switch:	ON
Band Selector:	FM
MODE switch:	MONO


FM rf signal generator
FM antenna terminal
0.01μF
set
75kHz frequency deviation by 400Hz signal

FM FRONT-END BLOCK

Adjustment is not necessary. But if it has been meddled with in some way, and if the adjustment is necessary by all means, adjust the FM front-end block as follows.

FM FREQUENCY COVERAGE ADJUSTMENT 1

1) Be sure to perform this adjustment before the FM frequency coverage adjustment 2.

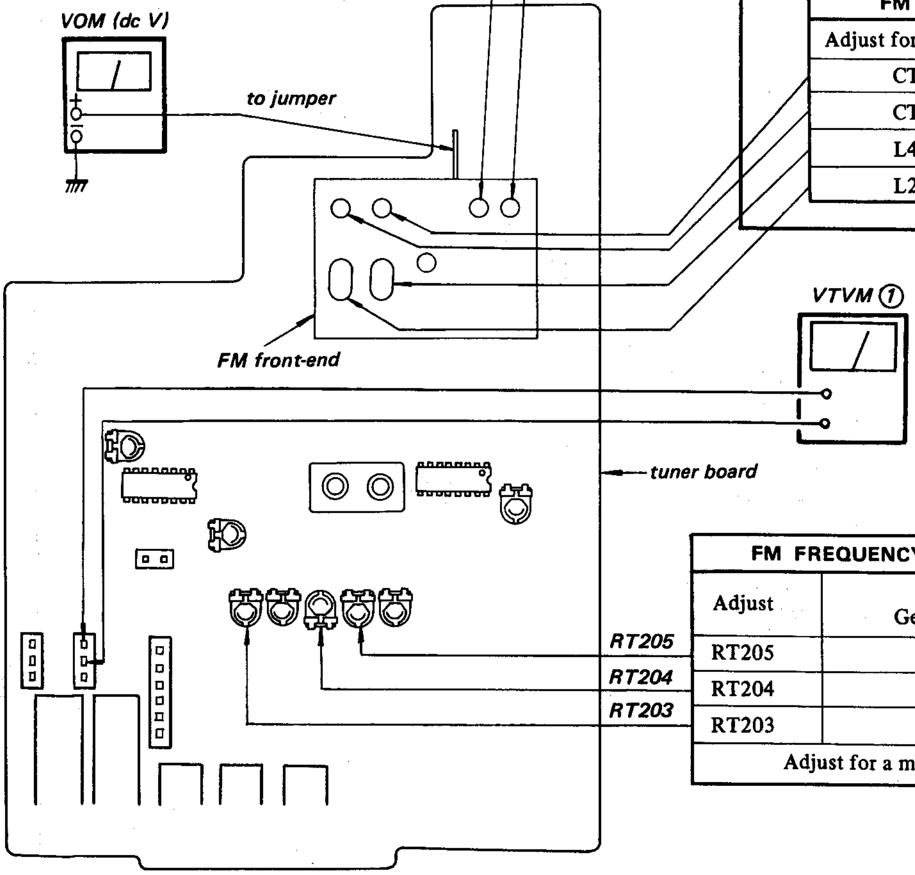
TUNING CONTROL VOLTAGE ADJUSTMENT		
Adjustment Part	Dial Indication	VOM Reading
RT205	lowest frequency	2.8V
RT204	98MHz	8.0V
RT203	highest frequency	22.5V
Adjust for a specified reading on VOM.		

LOCAL OSCILLATOR FREQUENCY ADJUSTMENT		
Adjustment Part	Dial Indication	FM RF Signal Generator Frequency
CT3	highest frequency	108MHz
T2	lowest frequency	88MHz
Adjust for a maximum reading on VTVM ①.		

2) Be sure to perform this adjustment after the FM frequency coverage adjustment 2.

FM TRACKING ADJUSTMENT	
Adjust for a maximum reading on VTVM ①.	
CT2	108MHz
CT1	
L4	88MHz
L2	

- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.


VOM (dc V)
to jumper
FM front-end
VTVM ①
tuner board
RT205
RT204
RT203

FM FREQUENCY COVERAGE ADJUSTMENT 2		
Adjust	FM RF Signal Generator Frequency	Dial Indication
RT205	88MHz	88MHz
RT204	98MHz	98MHz
RT203	108MHz	108MHz
Adjust for a maximum reading on VTVM ①.		

FM DISCRIMINATOR ALIGNMENT 1

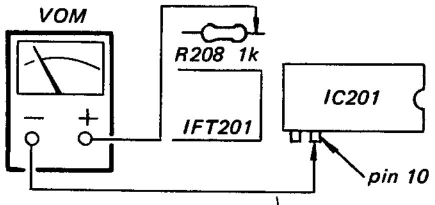
Setting:

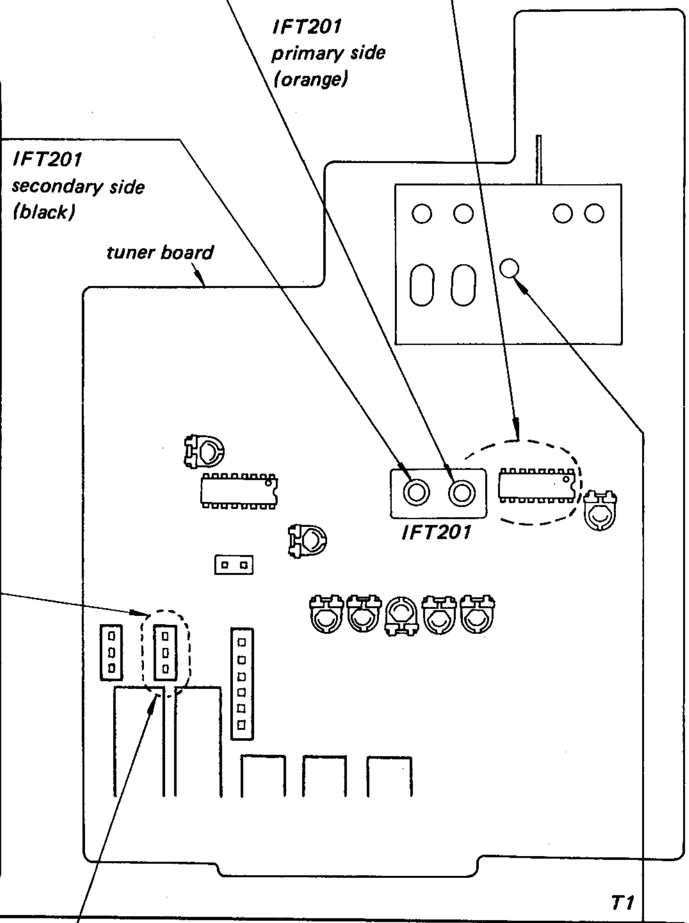
MANUAL TUNING switch:	ON
Band Selector:	FM
MODE switch:	MONO
TUNING:	Detuned position

Procedure:

Adjust the orange core (primary-side) of IFT201 for 0V dc reading on VOM.

Note: When replacing the ceramic filter (CF201), perform this alignment.

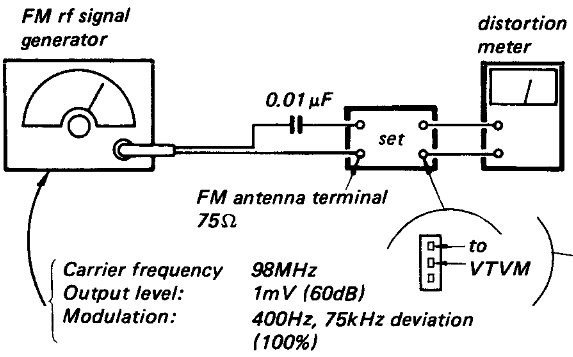

VOM
R208 1k
IC201
IFT201
pin 10


IFT201
primary side
(orange)
IFT201
secondary side
(black)
tuner board
IFT201
T1

FM DISCRIMINATOR ALIGNMENT 2

Setting:

MANUAL TUNING switch:	ON
Band Selector:	FM
MODE switch:	MONO

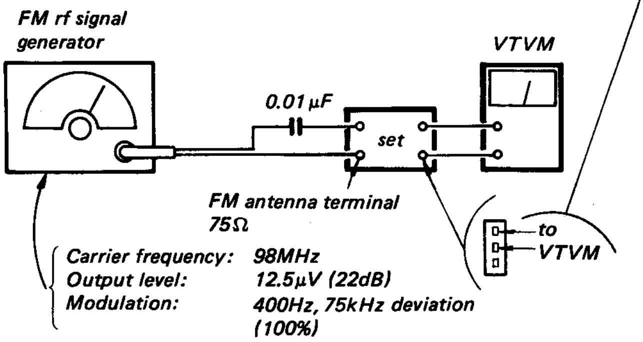

FM rf signal generator
distortion meter
0.01 μF
set
FM antenna terminal
75Ω
to
VTVM

Carrier frequency	98MHz
Output level:	1mV (60dB)
Modulation:	400Hz, 75kHz deviation (100%)

Procedure:

Adjust the black core (secondary side) of IFT201 for minimum distortion.

FM IF ALIGNMENT


FM rf signal generator
VTVM
0.01 μF
set
FM antenna terminal
75Ω
to
VTVM

Carrier frequency:	98MHz
Output level:	12.5μV (22dB)
Modulation:	400Hz, 75kHz deviation (100%)

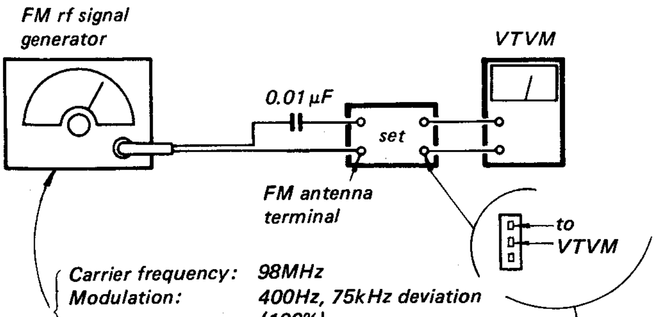
Setting:

MANUAL TUNING switch:	ON
Band Selector:	FM
MODE switch:	MONO

Procedure:

Adjust T1 for maximum reading on the VTVM.

MUTING LEVEL ADJUSTMENT


FM rf signal generator
VTVM
0.01 μF
set
FM antenna terminal
to VTVM

Carrier frequency: 98MHz
Modulation: 400Hz, 75kHz deviation (100%)
Output level: 5μV (14dB)

Setting:

MANUAL TUNING switch: ON
MODE switch: STEREO

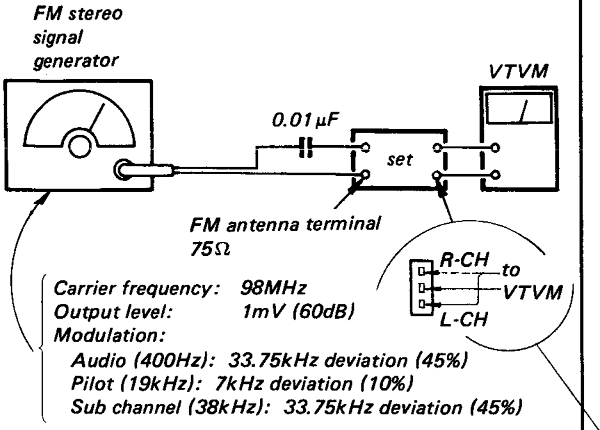
Procedure:

1. Turn RT208 and stop it just when the VTVM indication suddenly increases.
2. If necessary, turn RT208 fully clockwise and make sure that the VTVM indication increases when the output level of the FM rf signal generator is set to 16μV (24dB).

FM STEREO SEPARATION ADJUSTMENT

Setting:

MANUAL TUNING switch: ON
Band Selector: FM
MODE switch: STEREO


FM stereo signal generator
VTVM
0.01 μF
set
FM antenna terminal 75Ω
R-CH
L-CH
to VTVM

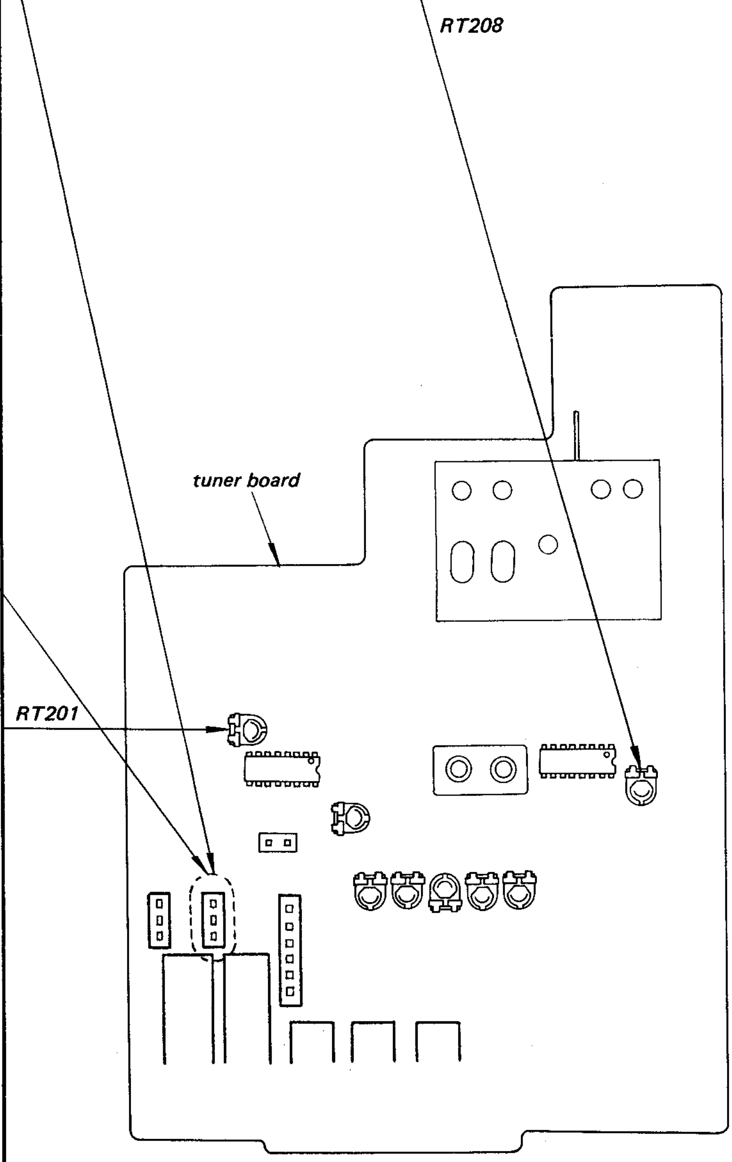
Carrier frequency: 98MHz
Output level: 1mV (60dB)
Modulation:
Audio (400Hz): 33.75kHz deviation (45%)
Pilot (19kHz): 7kHz deviation (10%)
Sub channel (38kHz): 33.75kHz deviation (45%)

Procedure:

FM stereo signal generator output channel	VTVM connection	VTVM reading (dB)
L-CH	L-CH	Ⓐ
R-CH	L-CH	Ⓑ Adjust RT201 for minimum reading.
R-CH	R-CH	Ⓒ
L-CH	R-CH	Ⓓ Adjust RT201 for minimum reading.

L-CH Stereo separation: Ⓐ – Ⓑ
R-CH Stereo separation: Ⓒ – Ⓓ

The difference between separations Ⓐ→Ⓑ and Ⓒ→Ⓓ are to be equal.

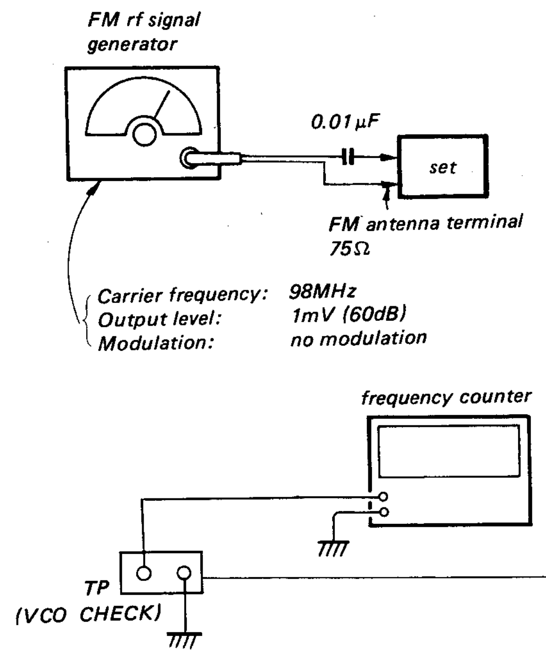

RT208
tuner board
RT201

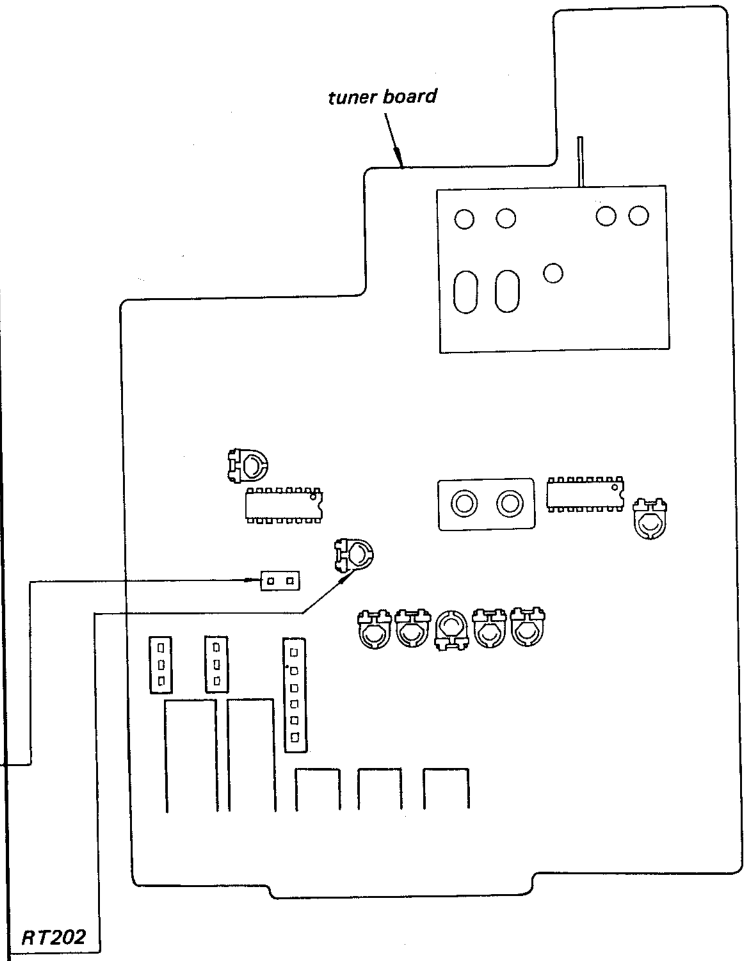
19kHz VCO ADJUSTMENT

Setting:

FUNCTION switch:	TUNER
Band Selector:	FM
MODE switch:	STEREO

A) Regular Method


FM rf signal generator
0.01 μF
set
FM antenna terminal 75Ω
Carrier frequency: 98MHz
Output level: 1mV (60dB)
Modulation: no modulation
frequency counter
TP (VCO CHECK)

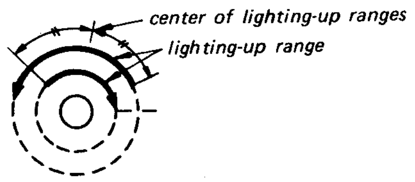

tuner board
RT202

Procedure:

Adjust RT202 for 19kHz ±50Hz on the frequency counter.

B) Simple Method

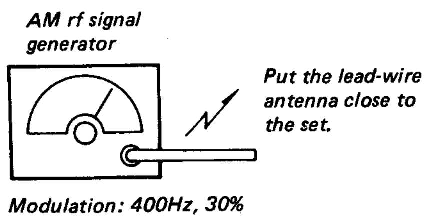
1. Tune the set to the FM stereo broadcasting signal.
2. Turn RT202 clockwise or counterclockwise and memorize the lighting-up ranges of STEREO lamp.
3. Secure RT202 at the center of the overlapped lighting-up range in both turning directions as shown below.


center of lighting-up ranges
lighting-up range

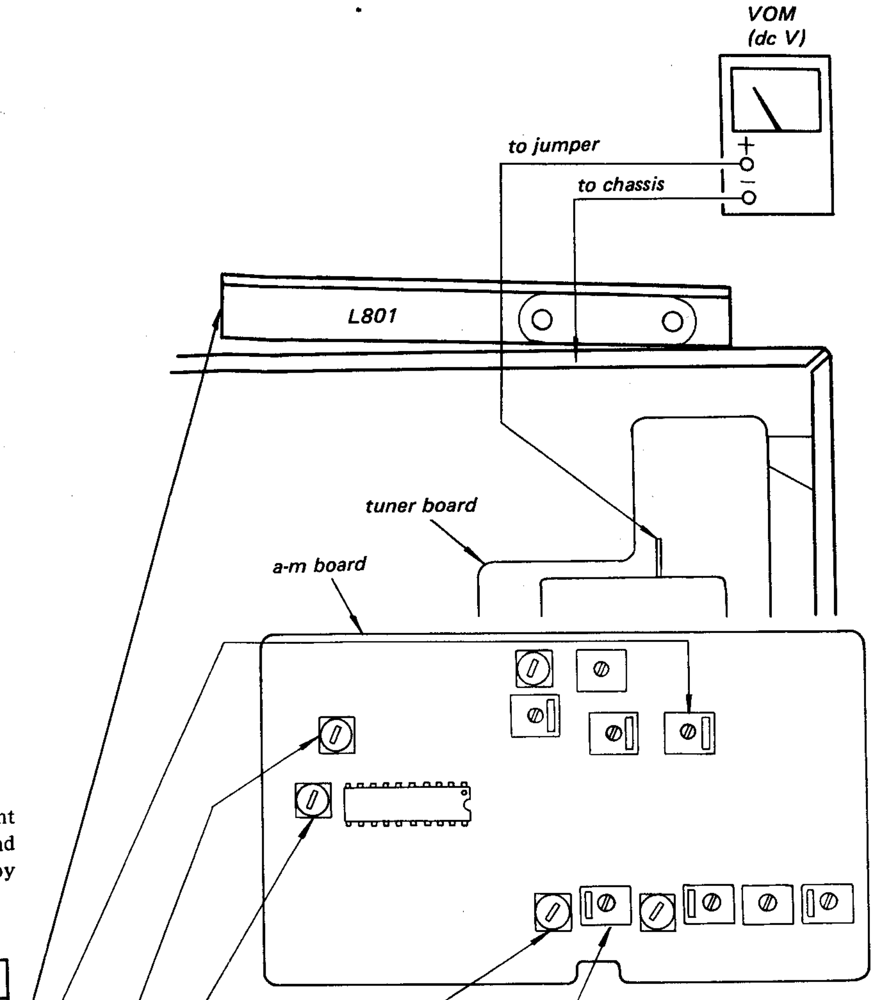
AM SECTION

(1) Setting:

MANUAL TUNING switch:	ON
Band Selector:	MW


AM rf signal generator
Put the lead-wire antenna close to the set.
Modulation: 400Hz, 30%

- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.


VOM (dc V)
to jumper
to chassis
L801
tuner board
a-m board
T301
T302

4. MW TRACKING ADJUSTMENT

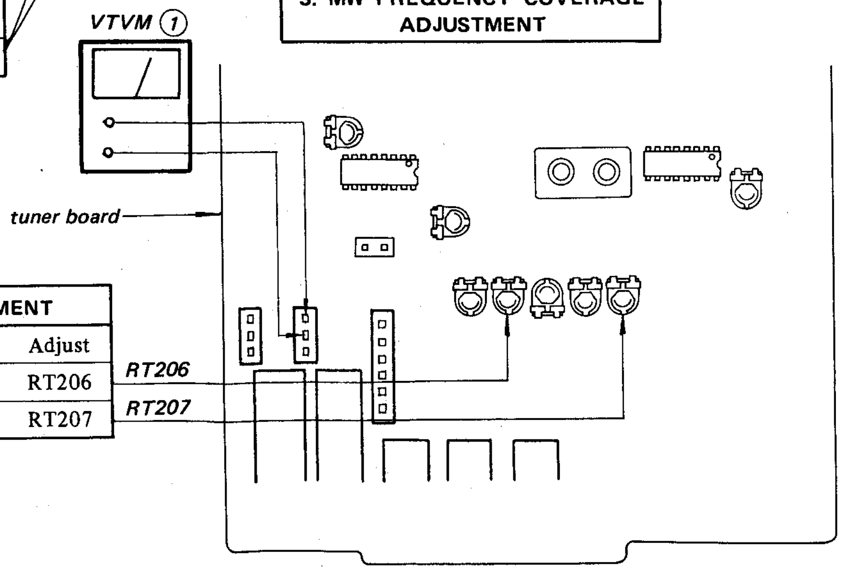
Adjust for a maximum reading on VTVM ①.	
600kHz	L801
1,400kHz	CT304

1. AM IF ALIGNMENT

Adjust for a maximum reading on VTVM ①.	
450kHz	T301, T302

L305	CT301
515kHz	1,660kHz
Set dial pointer to lowest frequency.	Set dial pointer to highest frequency.
Adjust for a maximum reading on VTVM ①.	

3. MW FREQUENCY COVERAGE ADJUSTMENT


VTVM ①
tuner board
RT206
RT207

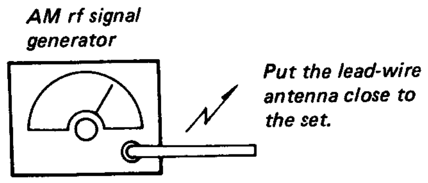
2. AM TUNING VOLTAGE ADJUSTMENT

Dial Indication	VOM Reading	Adjust
highest frequency	25V	RT206
lowest frequency	1V	RT207

AM SECTION

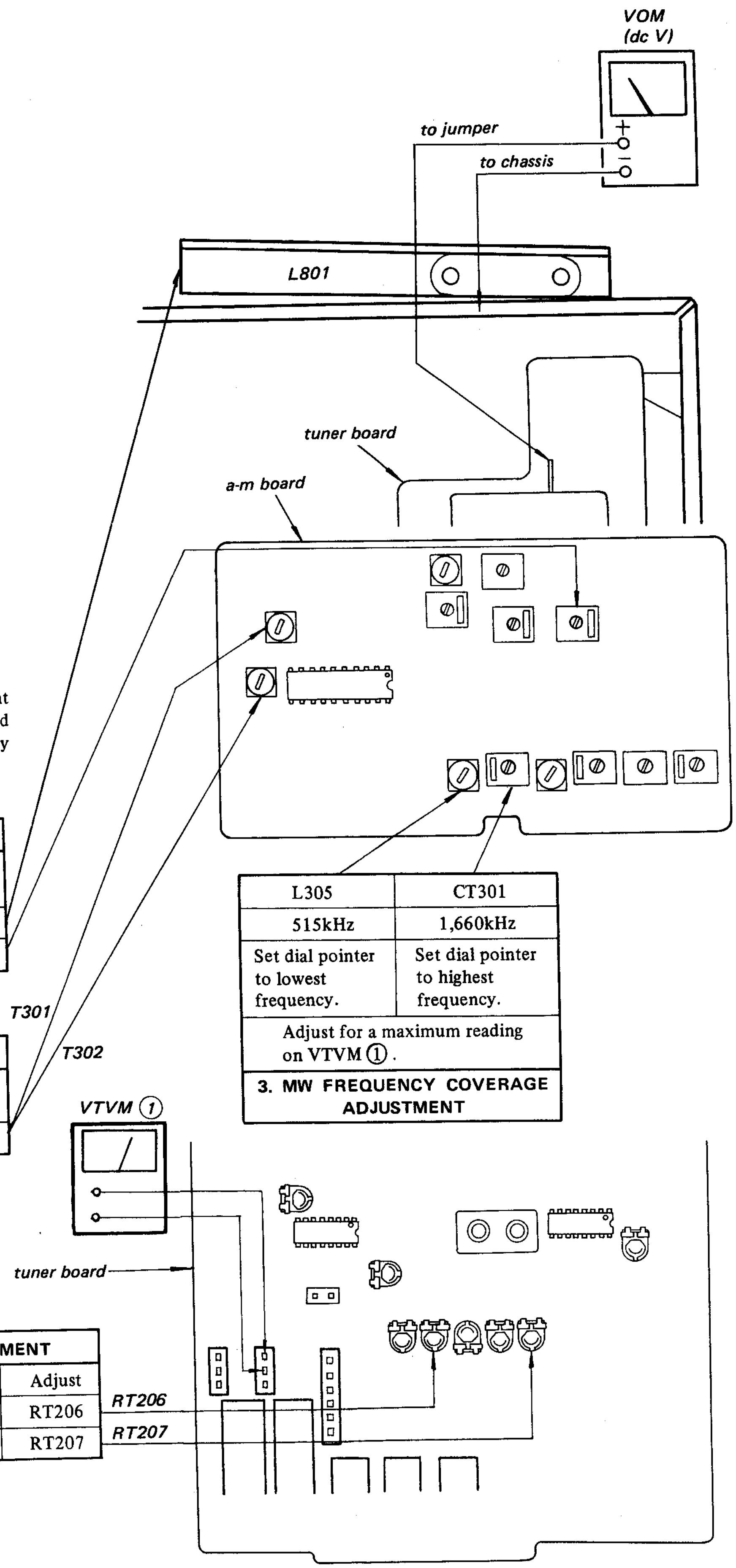
(1) Setting:

MANUAL TUNING switch: ON
Band Selector: MW


AM rf signal generator
Put the lead-wire antenna close to the set.

Modulation: 400Hz, 30%

- Repeat the procedures in each adjustment several times, and the frequency coverage and tracking adjustments should be finally done by the trimmer capacitors.


VOM (dc V)
to jumper
to chassis
+
−
L801
tuner board
a-m board
T301
T302
VTVM ①
tuner board
RT206
RT207

4. MW TRACKING ADJUSTMENT

Adjust for a maximum reading on VTVM ①.	
600kHz	L801
1,400kHz	CT304

1. AM IF ALIGNMENT

Adjust for a maximum reading on VTVM ①.	
450kHz	T301, T302

L305	CT301
515kHz	1,660kHz
Set dial pointer to lowest frequency.	Set dial pointer to highest frequency.
Adjust for a maximum reading on VTVM ①.	

3. MW FREQUENCY COVERAGE ADJUSTMENT

2. AM TUNING VOLTAGE ADJUSTMENT

Dial Indication	VOM Reading	Adjust
highest frequency	25V	RT206
lowest frequency	1V	RT207

(2) Setting:

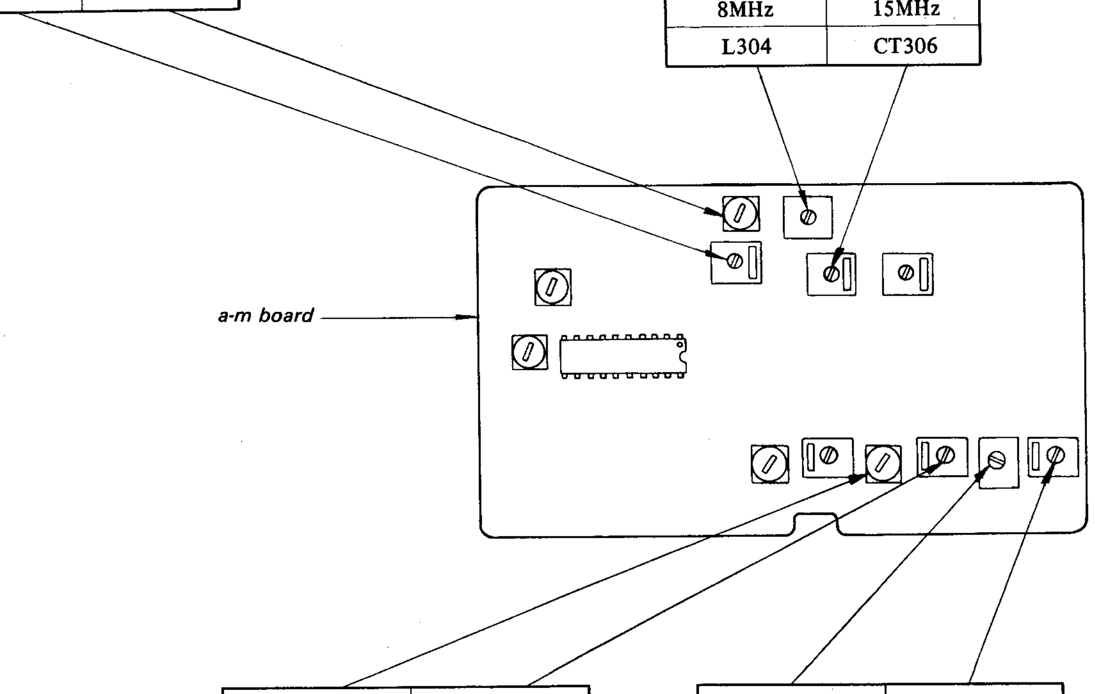
MANUAL TUNING switch: ON
Band Selector: SW1 or SW2

SW1 TRACKING ADJUSTMENT

Adjust for a maximum reading on VOM ①.	
6MHz	3MHz
CT305	L303

SW2 TRACKING ADJUSTMENT

Adjust for a maximum reading on VOM ①.	
8MHz	15MHz
L304	CT306



L307	CT302
2.1MHz	6.5MHz
Set dial pointer to lowest frequency.	Set dial pointer to highest frequency.
Adjust for a maximum reading on VOM ①.	

SW1 FREQUENCY COVERAGE ADJUSTMENT

L308	CT303
6.8MHz	18.4MHz
Set dial pointer to lowest frequency.	Set dial pointer to highest frequency.
Adjust for a maximum reading on VOM ①.	

SW2 FREQUENCY COVERAGE ADJUSTMENT

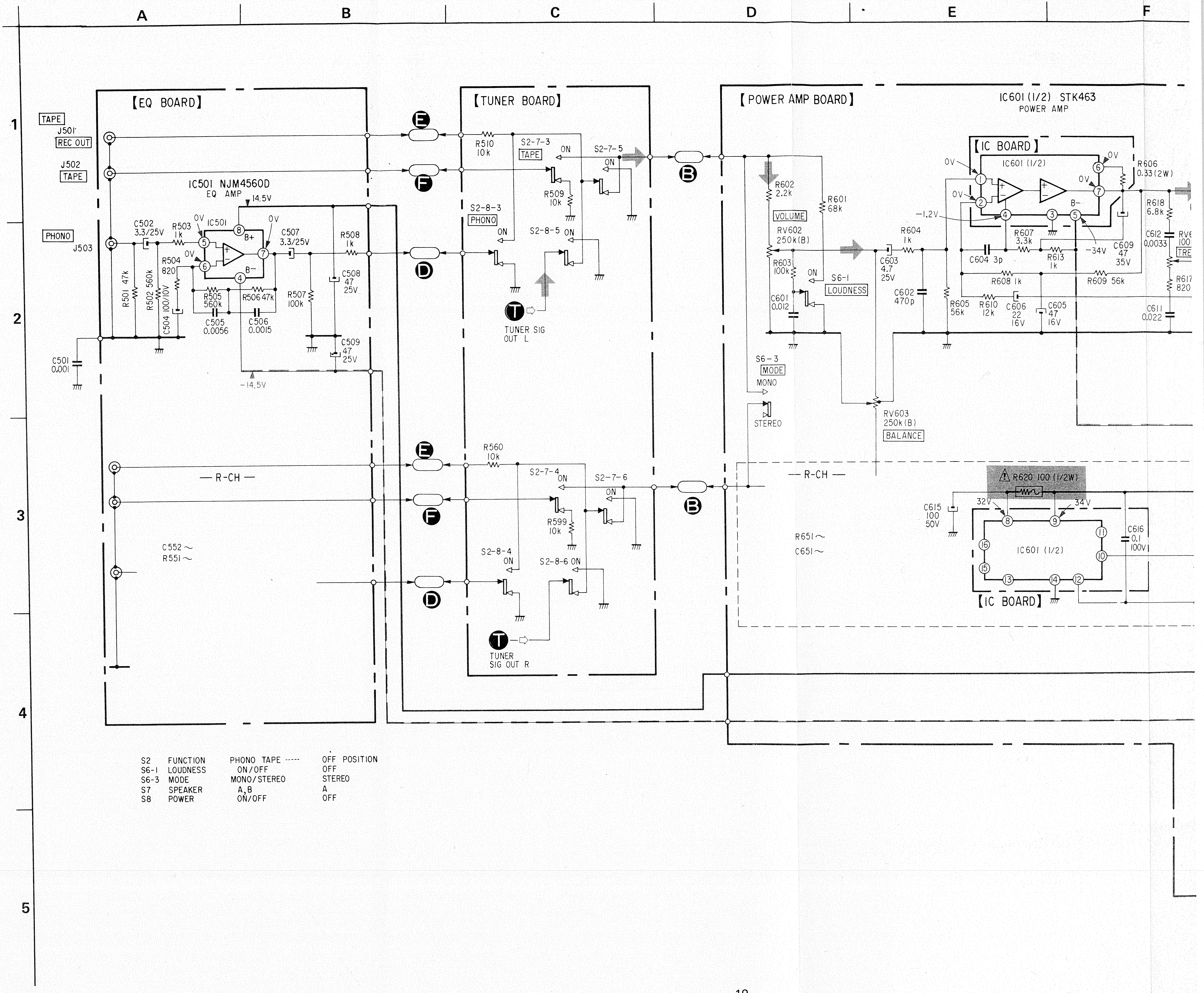
SECTION 4
DIAGRAMS

4-1. SCHEMATIC DIAGRAM
— Audio Section —

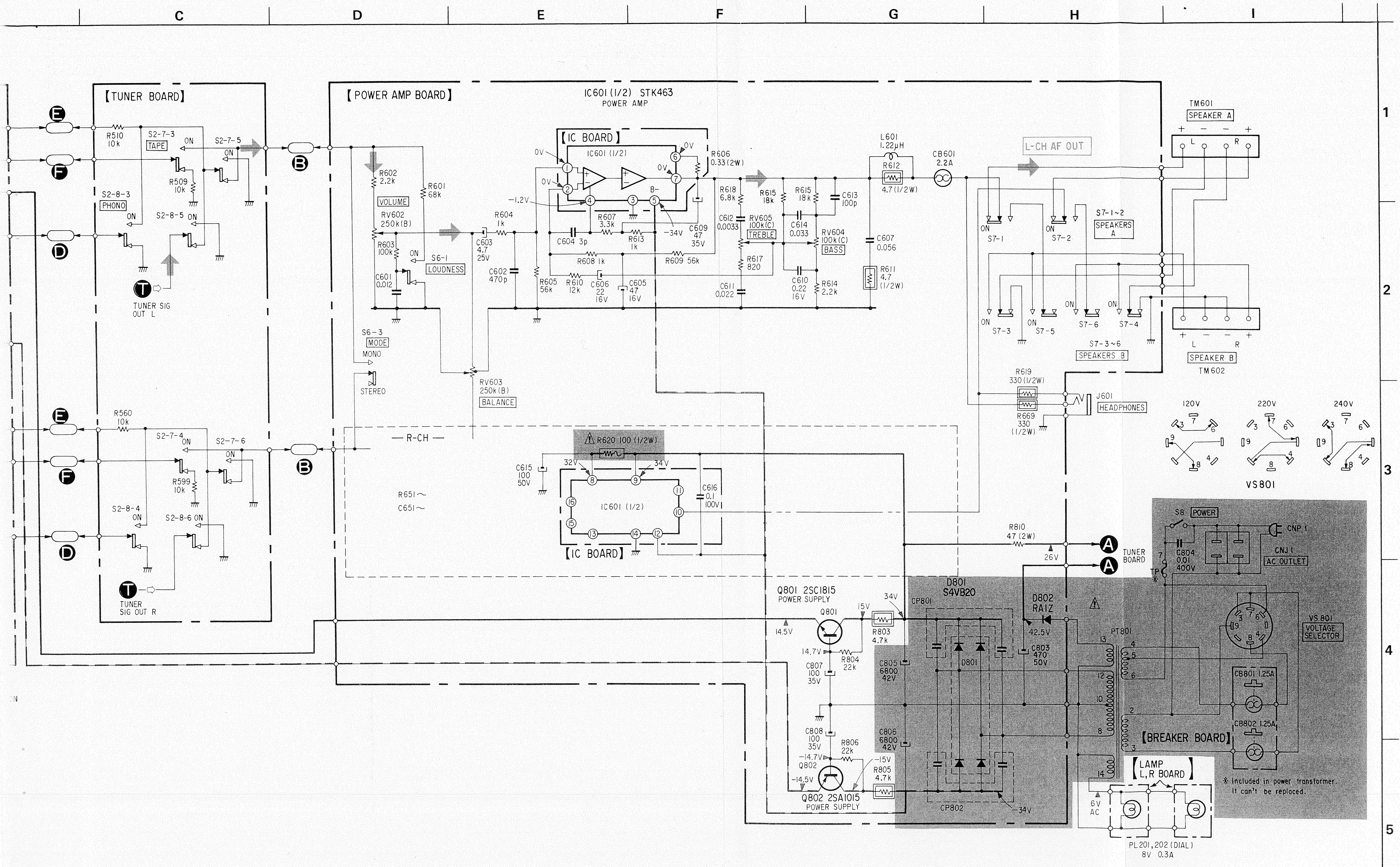
Note:

- All capacitors are in μF unless otherwise noted. pF : $\mu\mu$F 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, ¼W unless otherwise noted. kΩ : 1000Ω, MΩ : 1000kΩ
- ⊡ : fusible resistor.
- ▣ : nonflammable resistor.
- △ : internal component.
- ▭ : panel designation.
- ▭ : adjustment for repair.
- ——— : B+ bus.
- – – – : B- bus.
- Voltages are dc with respect to ground unless otherwise noted.
- Voltage variations may be noted due to normal production tolerances.
- Readings are taken under no-signal conditions with a VOM (20kΩ/V).
- ➡ : signal path

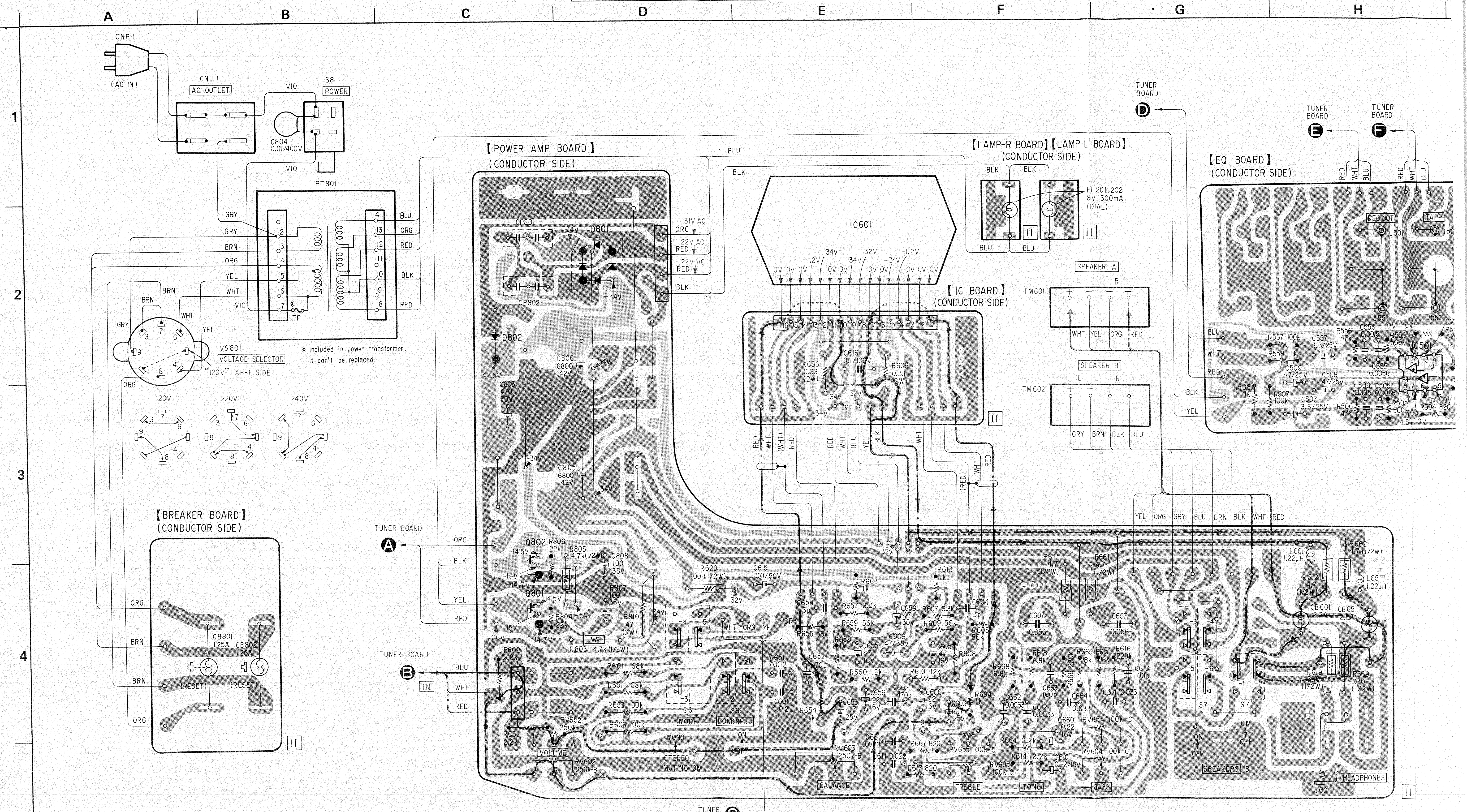
Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.


A
B
C
D
E
F
1
2
3
4
5
【EQ BOARD】
【TUNER BOARD】
【POWER AMP BOARD】
IC601 (1/2) STK463
POWER AMP
【IC BOARD】
TAPE
J501
REC OUT
J502
TAPE
PHONO
J503
IC501 NJM4560D
EQ AMP
14.5V
-14.5V
C501 0.001
R501 47k
R502 560k
C504 100/10V
C502 3.3/25V
R503 1k
R504 820
R505 560k
R506 47k
C505 0.0056
C506 0.0015
C507 3.3/25V
R507 100k
R508 1k
C508 47 25V
C509 47 25V
R510 10k
S2-7-3
S2-7-5
S2-8-3
S2-8-5
R509 10k
TUNER SIG OUT L
R560 10k
S2-7-4
S2-7-6
S2-8-4
S2-8-6
R599 10k
TUNER SIG OUT R
— R-CH —
C552～
R551～
R602 2.2k
R601 68k
VOLUME
RV602 250k(B)
R603 100k
C601 0.012
S6-1
LOUDNESS
S6-3
MODE
MONO
STEREO
R604 1k
C603 4.7 25V
C602 470p
RV603 250k(B)
BALANCE
R605 56k
R610 12k
C606 22 16V
C605 47 16V
R607 3.3k
C604 3p
R613 1k
R608 1k
R609 56k
C609 47 35V
-34V
-1.2V
0V
R606 0.33(2W)
R618 6.8k
C612 0.0033
R617 820
C611 0.022
RV
TRE
R651～
C651～
C615 100 50V
R620 100 (1/2W)
32V
34V
C616 0.1 100V
IC601 (1/2)
ON
B+
B-
E
F
D
B
T

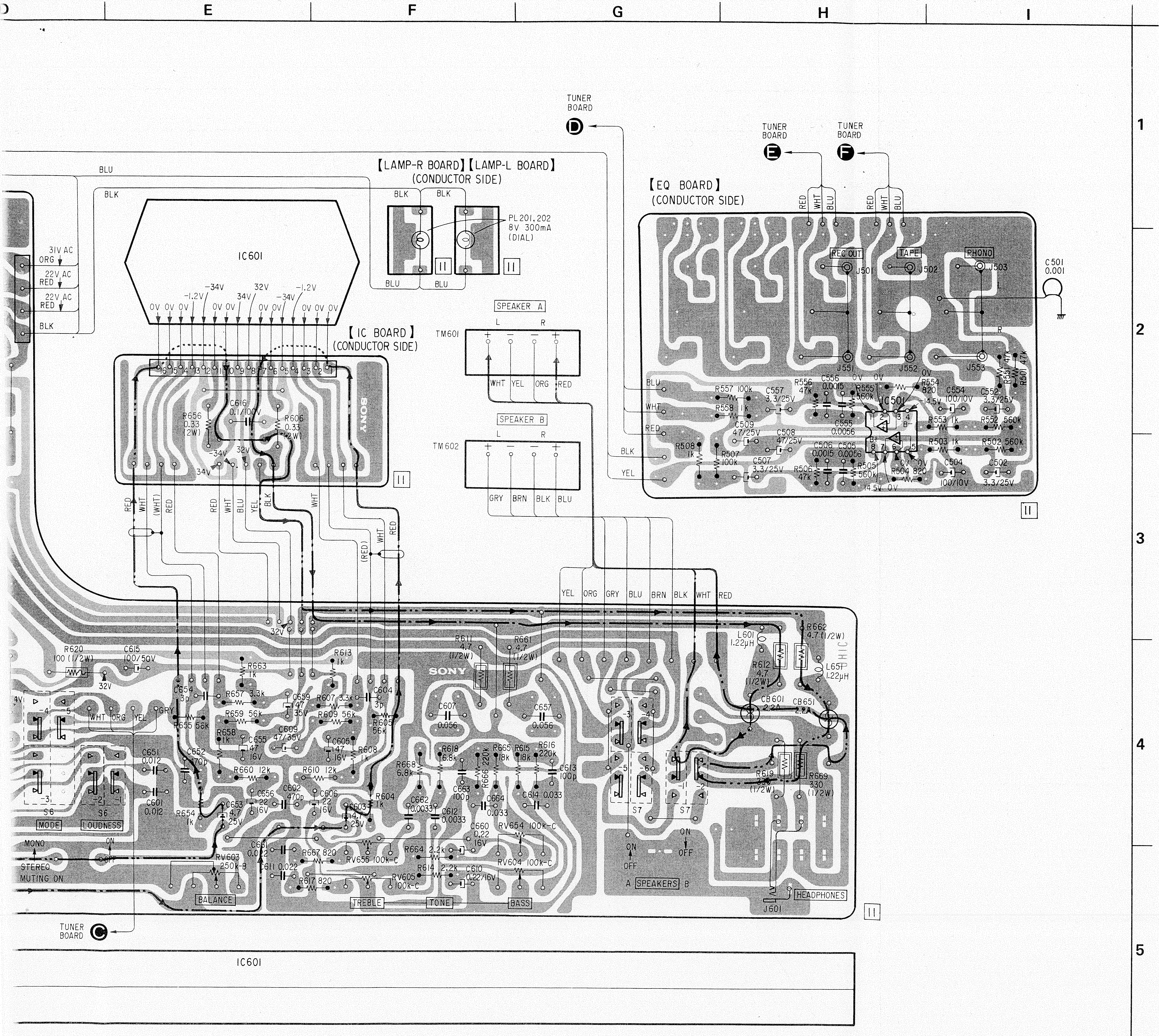
S2	FUNCTION	PHONO TAPE -----	OFF POSITION
S6-1	LOUDNESS	ON/OFF	OFF
S6-3	MODE	MONO/STEREO	STEREO
S7	SPEAKER	A, B	A
S8	POWER	ON/OFF	OFF


C
D
E
F
G
H
I
1
2
3
4
5
【TUNER BOARD】
E
F
D
R510 10k
S2-7-3 TAPE
ON
S2-7-5
ON
R509 10k
S2-8-3 PHONO
ON
S2-8-5 ON
T
TUNER SIG OUT L
B
【POWER AMP BOARD】
R602 2.2k
R601 68k
VOLUME
RV602 250k(B)
R603 100k
ON
S6-1 LOUDNESS
C601 0.012
C603 4.7 25V
R604 1k
C602 470p
IC601 (1/2) STK463
POWER AMP
【IC BOARD】
IC601 (1/2)
0V
0V
-1.2V
B-
R607 3.3k
C604 3p
R613 1k
-34V
C609 47 35V
R608 1k
R609 56k
R605 56k
R610 12k
C606 22 16V
C605 47 16V
R606 0.33(2W)
R618 6.8k
R615 18k
R615 18k
C613 100p
C612 0.0033
RV605 100k(C) TREBLE
C614 0.033
RV604 100k(C) BASS
R617 820
C611 0.022
C610 0.22 16V
R614 2.2k
L601 1.22μH
R612 4.7(1/2W)
C607 0.056
R611 4.7 (1/2W)
CB601 2.2A
L-CH AF OUT
TM601
SPEAKER A
L
R
S7-1
S7-2
S7-1~2 SPEAKERS A
S7-3
S7-5
S7-6
S7-4
S7-3~6 SPEAKERS B
SPEAKER B
TM602
S6-3 MODE
MONO
STEREO
RV603 250k(B) BALANCE
R619 330(1/2W)
R669 330 (1/2W)
J601 HEADPHONES
120V
220V
240V
VS801
R560 10k
S2-7-4 ON
S2-7-6 ON
R599 10k
S2-8-4 ON
S2-8-6 ON
TUNER SIG OUT R
— R-CH —
⚠ R620 100 (1/2W)
32V
34V
C615 100 50V
C616 0.1 100V
R651~
C651~
IC601 (1/2)
【IC BOARD】
R810 47 (2W)
26V
A
TUNER BOARD
S8 POWER
CNP1
C804 0.01 400V
CNJ1 AC OUTLET
TP※
Q801 2SC1815 POWER SUPPLY
Q801
14.5V
15V
34V
R803 4.7k
14.7V
R804 22k
C807 100 35V
C808 100 35V
-14.7V
R806 22k
-15V
R805 4.7k
-14.5V
Q802
Q802 2SA1015 POWER SUPPLY
CP801
D801 S4VB20
D801
C805 6800 42V
C806 6800 42V
CP802
-34V
D802 RA1Z
42.5V
C803 470 50V
⚠
PT801
VS801 VOLTAGE SELECTOR
CB801 1.25A
CB802 1.25A
【BREAKER BOARD】
【LAMP L,R BOARD】
6V AC
※ Included in power transformer. It can't be replaced.
PL201,202 (DIAL) 8V 0.3A

4-2. MOUNTING DIAGRAM — Audio Section —

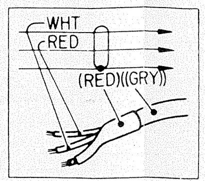

A
B
C
D
E
F
G
H
1
2
3
4
CNP1
(AC IN)
CNJ 1
AC OUTLET
V10
S8
POWER
C804
0.01/400V
PT801
GRY
BRN
ORG
YEL
WHT
BLU
RED
BLK
TP
VS801
VOLTAGE SELECTOR
"120V" LABEL SIDE
※ Included in power transformer. It can't be replaced.
120V
220V
240V
【BREAKER BOARD】
(CONDUCTOR SIDE)
CB801
1.25A
CB802
1.25A
(RESET)
【POWER AMP BOARD】
(CONDUCTOR SIDE)
CP801
CP802
D801
D802
42.5V
C803
470
50V
C806
6800
42V
C805
6800
42V
34V
-34V
31V AC
22V AC
TUNER BOARD
Q802
Q801
R806
22k
R805
4.7k(1/2W)
C808
100
35V
R807
100
35V
R804
22k
R810
47
(2W)
R803 4.7k (1/2W)
-14.5V
-15V
14.5V
14.7V
15V
26V
R620
100 (1/2W)
C615
100/50V
32V
【IC BOARD】
(CONDUCTOR SIDE)
IC601
R656
0.33
(2W)
C616
0.1/100V
R606
0.33
(2W)
SONY
-1.2V
-34V
0V
【LAMP-R BOARD】【LAMP-L BOARD】
(CONDUCTOR SIDE)
PL201, 202
8V 300mA
(DIAL)
SPEAKER A
SPEAKER B
TM601
TM602
L
R
【EQ BOARD】
(CONDUCTOR SIDE)
REC OUT
TAPE
J501
J551
J552
IC501
R557 100k
R558 1k
R556 47k
C556 0.0015
C557 3.3/25V
C509 47/25V
C508 47/25V
C555 0.0056
C506 0.0015
C505 0.0056
C507 3.3/25V
R507 100k
R508 1k
R506 47k
R505 560k
R504 820
R555 560k
14.5V
IN
R602
2.2k
R652
2.2k
R601 68k
R651 68k
R653 100k
R603 100k
RV652 250k-B
RV602 250k-B
VOLUME
MONO
STEREO
MUTING ON
ON
OFF
S6
MODE
LOUDNESS
R663 1k
R613 1k
C654 3p
C604 3p
R657 3.3k
R607 3.3k
R659 56k
R609 56k
R655 56k
R605 56k
C659 47 35V
C609 47/35V
R658 1k
R608 1k
C655 47 16V
C605 47 16V
C651 0.012
C601 0.012
C652 470p
C602 470p
R660 12k
R610 12k
C656 22 16V
C606 22 16V
C653 4.7 25V
C603 4.7 25V
R654 1k
R604 1k
C661 0.022
C611 0.022
RV603 250k-B
BALANCE
R667 820
R617 820
RV655 100k-C
RV605 100k-C
TREBLE
R611 4.7 (1/2W)
R661 4.7 (1/2W)
C607 0.056
C657 0.056
R668 6.8k
R618 6.8k
R665 18k
R615 18k
R666 220k
R616 220k
C663 100p
C613 100p
C662 0.0033
C612 0.0033
C664 0.033
C614 0.033
C660 0.22 16V
C610 0.22/16V
R664 2.2k
R614 2.2k
RV654 100k-C
RV604 100k-C
TONE
BASS
L601 1.22μH
L651 1.22μH
R662 4.7 (1/2W)
R612 4.7 (1/2W)
CB601 2.2A
CB651 2.2A
R619 330 (1/2W)
R669 330 (1/2W)
S7
A SPEAKERS B
HEADPHONES
J601

	A	B	C	D	E	F	G	H
Q IC			802 801		IC601			
D			802	801				


E
F
G
H
I
1
2
3
4
5
TUNER BOARD D
TUNER BOARD E
TUNER BOARD F
【LAMP-R BOARD】【LAMP-L BOARD】
(CONDUCTOR SIDE)
PL201, 202 8V 300mA (DIAL)
【EQ BOARD】
(CONDUCTOR SIDE)
REC OUT J501
TAPE J502
PHONO J503
C501 0.001
J551
J552
J553
IC501
BLU
BLK
31V AC ORG
22V AC RED
22V AC RED
IC601
-1.2V
-34V
32V
34V
0V
【IC BOARD】
(CONDUCTOR SIDE)
SONY
C616 0.1/100V
R656 0.33 (2W)
R606 0.33 (2W)
SPEAKER A
TM601
SPEAKER B
TM602
WHT YEL ORG RED
GRY BRN BLK BLU
YEL ORG GRY BLU BRN BLK WHT RED
R620 100 (1/2W)
C615 100/50V
R611 4.7 (1/2W)
R661 4.7 (1/2W)
R662 4.7 (1/2W)
L601 1.22μH
L651 1.22μH
R612 4.7 (1/2W)
CB601 2.2A
CB651 2.2A
R619 3.3 (1/2W)
R669 330 (1/2W)
S6 MODE
S6 LOUDNESS
MONO
STEREO
MUTING ON
ON OFF
RV603 250k-B BALANCE
RV655 100k-C TREBLE
RV605 100k-C TONE
RV654 100k-C
RV604 100k-C BASS
S7
A SPEAKERS B
J601 HEADPHONES
TUNER BOARD C
IC601

Note:

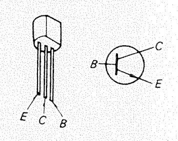
- Color code of sleeving over the end of the jacket.


WHT
RED
(RED)(GRY)

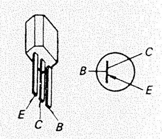
- ○—: parts extracted from the component side.
- ●—: parts extracted from the conductor side.
- [ ]⊢ : indicates side identified with part number.
- ▭ : nonflammable resistor.
- ▨ : B+ pattern
- ▨ : B− pattern
- ➡ : signal path
- ➡ : L-CH signal path
- ➡ : R-CH signal path

Replacement Semiconductors

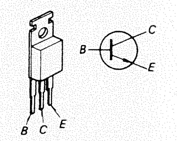
2SC1364
2SC1815



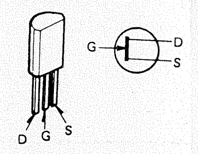
2SA1015



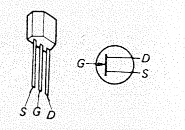
2SC1173



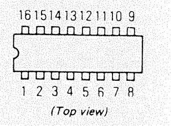
2SK105A



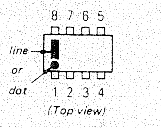
2SK23



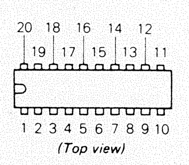
LA1231
LA3361


16 15 14 13 12 11 10 9
1 2 3 4 5 6 7 8
(Top view)

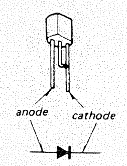
NJM4560D-D
TL489CP


8 7 6 5
line
or
dot
1 2 3 4
(Top view)

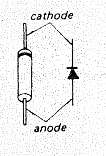
LA1245


20 18 16 14 12
19 17 15 13 11
1 2 3 4 5 6 7 8 9 10
(Top view)

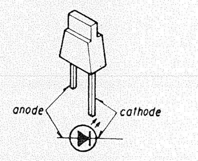
μPC574J


anode
cathode

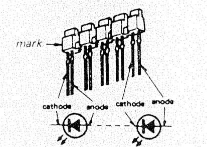
1S1555
10E2


cathode
anode

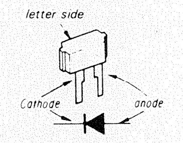
SLP241B
SLP141B


anode
cathode

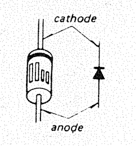
SLP252B-06
SLP252B


mark
cathode anode cathode anode

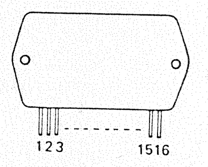
KV1226


letter side
Cathode
anode

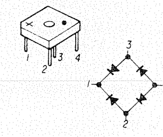
EQB01-14
EQA01-14R


cathode
anode

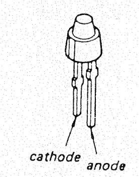
STK463



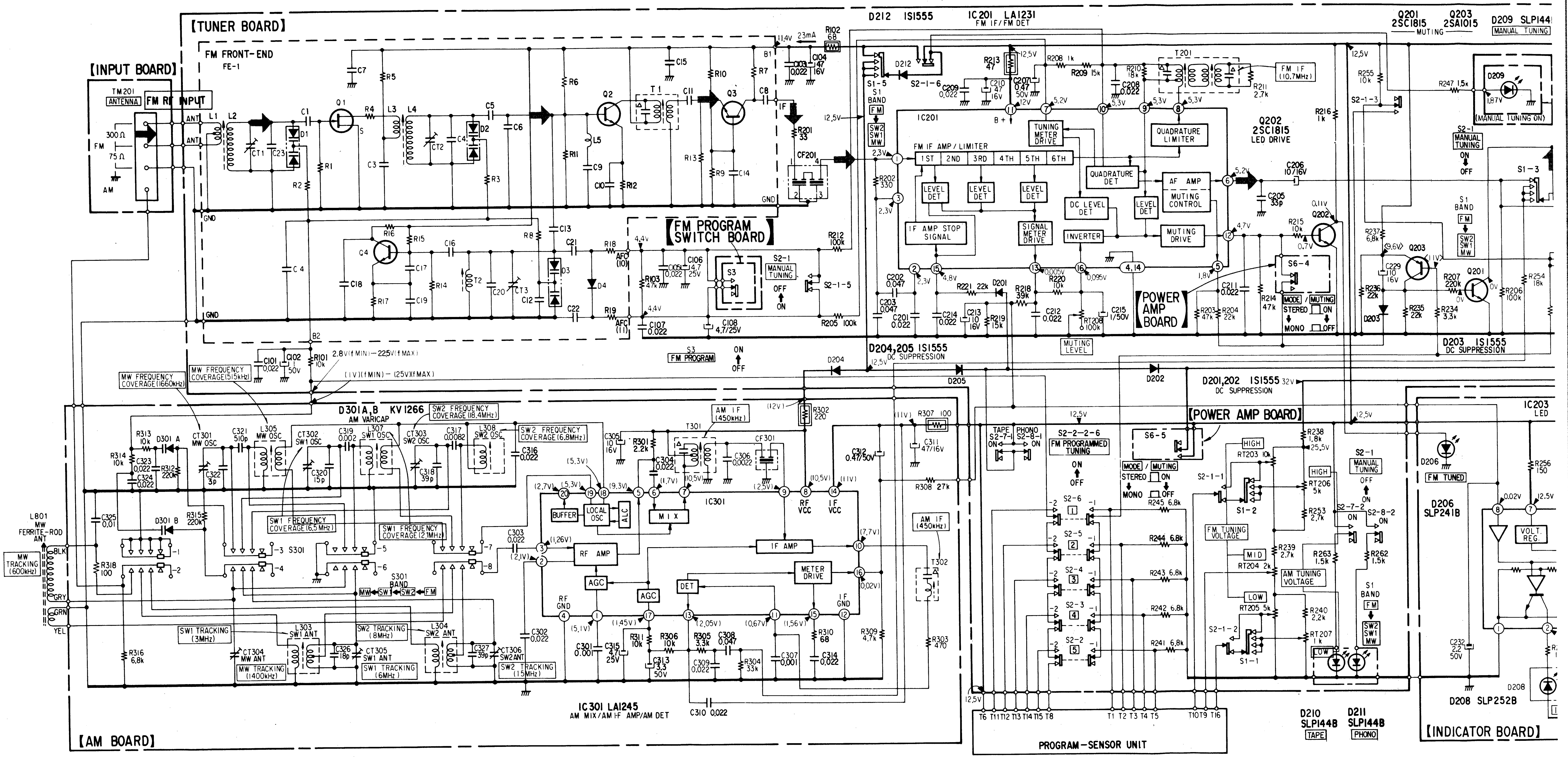
S4VB20
S4VB40



SLP144B

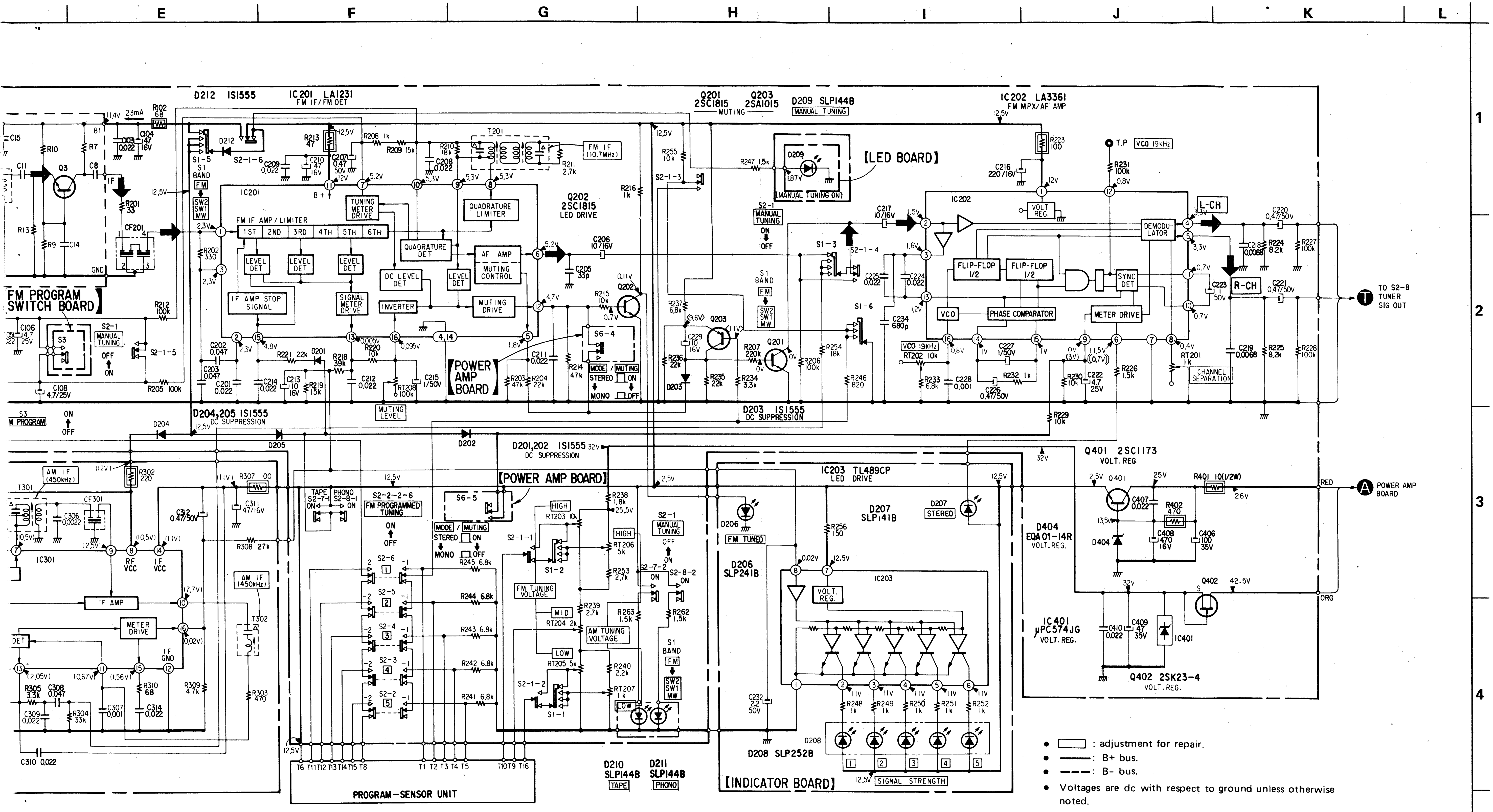

cathode
anode

4-3. SCHEMATIC DIAGRAM – Tuner Section –


A
B
C
D
E
F
G
H
1
2
3
4
5
【TUNER BOARD】
【INPUT BOARD】
TM201 ANTENNA
FM RF INPUT
300Ω
FM
75Ω
AM
FM FRONT-END FE-1
【FM PROGRAM SWITCH BOARD】
S3
S2-1 MANUAL TUNING OFF ON
S2-1-5
S3 FM PROGRAM ON OFF
D212 1S1555
IC201 LA1231 FM IF/FM DET
IC201
FM IF AMP / LIMITER
1ST
2ND
3RD
4TH
5TH
6TH
LEVEL DET
IF AMP STOP SIGNAL
SIGNAL METER DRIVE
TUNING METER DRIVE
DC LEVEL DET
INVERTER
QUADRATURE DET
QUADRATURE LIMITER
AF AMP
MUTING CONTROL
MUTING DRIVE
T201
FM IF (10.7MHz)
Q201 2SC1815
Q203 2SA1015
MUTING
D209 SLP144
MANUAL TUNING
(MANUAL TUNING ON)
Q202 2SC1815 LED DRIVE
S6-4
MODE / MUTING
STEREO ON
MONO OFF
【POWER AMP BOARD】
MUTING LEVEL
D203 1S1555 DC SUPPRESSION
D204,205 1S1555 DC SUPPRESSION
D201,202 1S1555 DC SUPPRESSION
MW FREQUENCY COVERAGE(1660kHz)
MW FREQUENCY COVERAGE(515kHz)
D301A,B KV1266 AM VARICAP
SW2 FREQUENCY COVERAGE (18.4MHz)
SW2 FREQUENCY COVERAGE (6.8MHz)
SW1 FREQUENCY COVERAGE (6.5MHz)
SW1 FREQUENCY COVERAGE (2.1MHz)
AM IF (450kHz)
T301
CF301
IC301
BUFFER
LOCAL OSC
ALC
MIX
RF AMP
AGC
IF AMP
DET
METER DRIVE
RF VCC
IF VCC
RF GND
IF GND
S301 BAND MW SW1 SW2 FM
L801 MW FERRITE-ROD ANT
MW TRACKING (600kHz)
BLK
GRY
GRN
YEL
SW1 TRACKING (3MHz)
SW2 TRACKING (8MHz)
MW TRACKING (1400kHz)
SW1 TRACKING (6MHz)
SW2 TRACKING (15MHz)
IC301 LA1245 AM MIX/AM IF AMP/AM DET
【AM BOARD】
T302
AM IF (450kHz)
TAPE S2-7-1 ON
PHONO S2-8-1 ON
S2-2-2-6 FM PROGRAMMED TUNING ON OFF
S6-5
PROGRAM-SENSOR UNIT
HIGH
MID
LOW
FM TUNING VOLTAGE
AM TUNING VOLTAGE
S2-1 MANUAL TUNING OFF ON
S1 BAND FM SW2 SW1 MW
D210 SLP144B TAPE
D211 SLP144B PHONO
IC203 LED
D206 FM TUNED
D206 SLP241B
VOLT. REG.
D208 SLP252B
【INDICATOR BOARD】

Note:

- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, ¼W unless otherwise noted. kΩ : 1000Ω, MΩ : 1000kΩ


E
F
G
H
I
J
K
L
1
2
3
4
5
FM PROGRAM SWITCH BOARD
D212 1S1555
IC201 LA1231
FM IF/FM DET
FM IF AMP/LIMITER
1ST
2ND
3RD
4TH
5TH
6TH
LEVEL DET
IF AMP STOP SIGNAL
TUNING METER DRIVE
SIGNAL METER DRIVE
QUADRATURE LIMITER
QUADRATURE DET
DC LEVEL DET
INVERTER
AF AMP
MUTING CONTROL
MUTING DRIVE
T201
FM IF (10.7MHz)
Q202 2SC1815 LED DRIVE
POWER AMP BOARD
S6-4
MODE / MUTING
STEREO ON
MONO OFF
MUTING LEVEL
D204,205 1S1555 DC SUPPRESSION
D201,202 1S1555 DC SUPPRESSION
Q201 2SC1815
Q203 2SA1015
MUTING
D209 SLP144B
MANUAL TUNING
LED BOARD
MANUAL TUNING ON
S2-1 MANUAL TUNING ON OFF
S1 BAND FM SW2 SW1 MW
D203 1S1555 DC SUPPRESSION
IC202 LA3361
FM MPX/AF AMP
T.P
VCO 19kHz
VOLT REG.
FLIP-FLOP 1/2
DEMODULATOR
SYNC DET
VCO
PHASE COMPARATOR
METER DRIVE
L-CH
R-CH
CHANNEL SEPARATION
TO S2-8 TUNER SIG OUT
POWER AMP BOARD
Q401 2SC1173 VOLT. REG.
D404 EQA01-14R VOLT. REG.
IC401 μPC574JG VOLT. REG.
Q402 2SK23-4 VOLT. REG.
RED
ORG
AM IF (450kHz)
T301
CF301
IC301
RF VCC
IF VCC
IF AMP
METER DRIVE
DET
IF GND
T302
TAPE S2-7-1
PHONO S2-8-1
S2-2-2-6 FM PROGRAMMED TUNING ON OFF
S6-5
FM TUNING VOLTAGE
AM TUNING VOLTAGE
HIGH
MID
LOW
S2-1 MANUAL TUNING OFF ON
S2-7-2
S2-8-2
S1 BAND FM SW2 SW1 MW
PROGRAM-SENSOR UNIT
D210 SLP144B TAPE
D211 SLP144B PHONO
IC203 TL489CP LED DRIVE
D206 FM TUNED
D206 SLP241B
D207 SLP141B
D207 STEREO
VOLT. REG.
D208 SLP252B
SIGNAL STRENGTH
INDICATOR BOARD

- ▭ : adjustment for repair.
- ——: B+ bus.
- ----: B− bus.
- Voltages are dc with respect to ground unless otherwise noted.
- Voltage variations may be noted due to normal production tolerances.
- Readings are taken under no-signal conditions with a VOM (20kΩ/V).
  ( ) : AM
  〚 〛 : tuned in FM STEREO signal
  < > : FM PROGRAMMED TUNING
  no mark: Common
- ➡ : signal path.

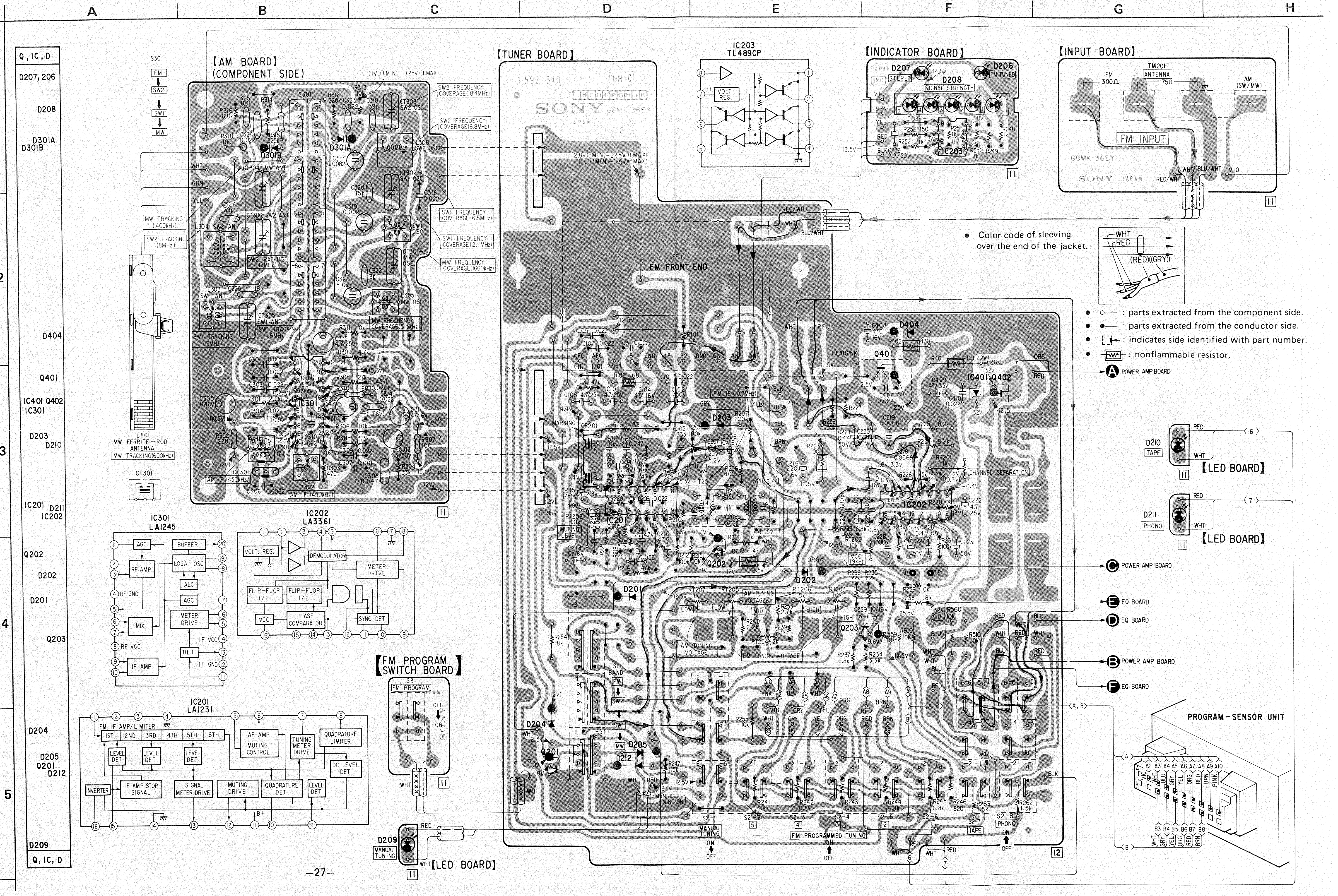
Note:

- All capacitors are in μF unless otherwise noted. pF : μμF 50WV or less are not indicated except for electrolytics and tantalums.
- All resistors are in ohms, ¼W unless otherwise noted. kΩ : 1000Ω, MΩ : 1000kΩ

- ⊏⁀⁀⊐ : fusible resistor.
- ⊏▭⊐ : nonflammable resistor.
- △ : internal component.
- ▭ : panel designation.

4-4. MOUNTING DIAGRAM – Tuner Section –

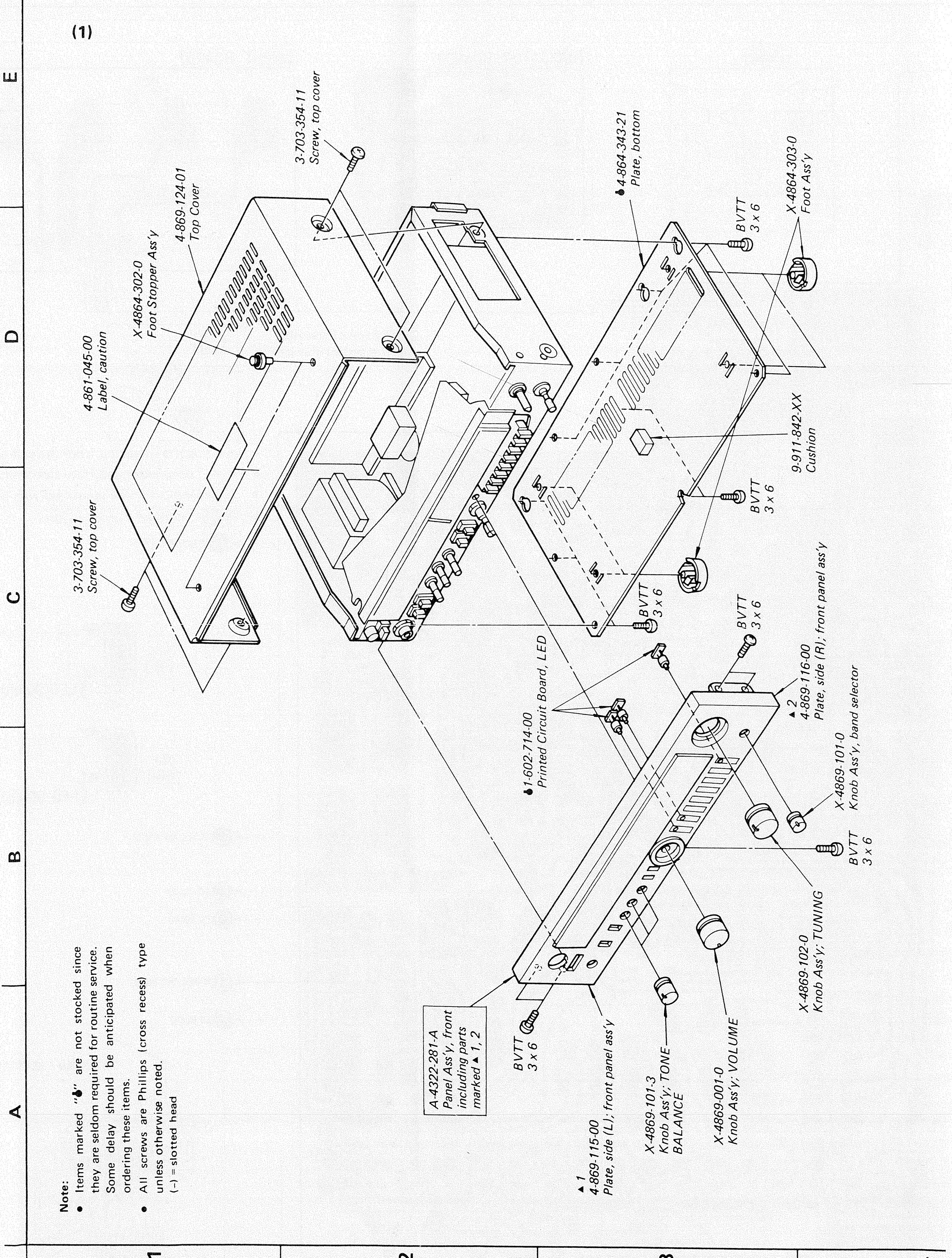
Note:
- ▒ : B+ pattern
- ⟹ : L-CH signal path
- ⟹ : R-CH signal path
- Readings are taken under no-signal conditions with a VOM (20kΩ/V).
- ( ) : AM
- 〚 〛 : tuned in FM STEREO signal
- 〈 〉 : FM PROGRAMMED TUNING
- no mark: Common


A
B
C
D
E
F
G
H
1
2
3
4
5
Q, IC, D
D207, 206
D208
D301A
D301B
D404
Q401
IC401 Q402
IC301
D203
D210
IC201
D211
IC202
Q202
D202
D201
Q203
D204
D205
Q201
D212
D209
Q, IC, D
S301
FM
SW2
SW1
MW
【AM BOARD】
(COMPONENT SIDE)
(1V)(f MIN) – (25V)(f MAX)
SW2 FREQUENCY COVERAGE(18.4MHz)
SW2 FREQUENCY COVERAGE(6.8MHz)
SW1 FREQUENCY COVERAGE(6.5MHz)
SW1 FREQUENCY COVERAGE(2.1MHz)
MW FREQUENCY COVERAGE(1660kHz)
MW FREQUENCY COVERAGE(515kHz)
MW TRACKING (1400kHz)
SW2 TRACKING (8MHz)
SW2 TRACKING (15MHz)
SW1 TRACKING (3MHz)
SW1 TRACKING (6MHz)
AM IF (450kHz)
L801
MW FERRITE-ROD ANTENNA
MW TRACKING(600kHz)
CF301
【TUNER BOARD】
1 592 540
SONY GCMK-36EY
2.8V(fMIN) – 22.5V (fMAX)
(1V)(fMIN) – (25V)(fMAX)
FE1
FM FRONT-END
FM IF (10.7MHz)
MUTING LEVEL
CHANNEL SEPARATION
VCO (19kHz)
AM TUNING VOLTAGE
FM TUNING VOLTAGE
LOW
MID
HIGH
S1 BAND
FM
SW2
SW1
MW
MANUAL TUNING (ON)
S2-1
S2-2
S2-3
S2-4
S2-5
S2-6
S2-7
S2-8
MANUAL TUNING
FM PROGRAMMED TUNING
TAPE
PHONO
ON
OFF
IC203
TL489CP
VOLT. REG.
【INDICATOR BOARD】
D207
STEREO
D206
FM TUNED
D208
SIGNAL STRENGTH
【INPUT BOARD】
TM201
ANTENNA
FM 300Ω
75Ω
AM (SW/MW)
FM INPUT
GCMK-36EY
SONY JAPAN
RED/WHT
WHT
BLU/WHT
Color code of sleeving over the end of the jacket.
(RED)(GRY)
POWER AMP BOARD
POWER AMP BOARD
EQ BOARD
EQ BOARD
POWER AMP BOARD
EQ BOARD
D210
TAPE
【LED BOARD】
D211
PHONO
【LED BOARD】
PROGRAM-SENSOR UNIT
IC301
LA1245
AGC
RF AMP
RF GND
MIX
RF VCC
IF AMP
BUFFER
LOCAL OSC
ALC
AGC
METER DRIVE
DET
IF VCC
IF GND
IC202
LA3361
VOLT. REG.
DEMODULATOR
METER DRIVE
FLIP-FLOP 1/2
FLIP-FLOP 1/2
VCO
PHASE COMPARATOR
SYNC DET
IC201
LA1231
FM IF AMP/LIMITER
1ST
2ND
3RD
4TH
5TH
6TH
LEVEL DET
AF AMP
MUTING CONTROL
TUNING METER DRIVE
QUADRATURE LIMITER
DC LEVEL DET
INVERTER
IF AMP STOP SIGNAL
SIGNAL METER DRIVE
MUTING DRIVE
QUADRATURE DET
LEVEL DET
B+
【FM PROGRAM SWITCH BOARD】
S3
FM PROGRAM
OFF
ON
D209
MANUAL TUNING
【LED BOARD】

- ○— : parts extracted from the component side.
- ●— : parts extracted from the conductor side.
- ⁝⊢ : indicates side identified with part number.
- ⊟ : nonflammable resistor.

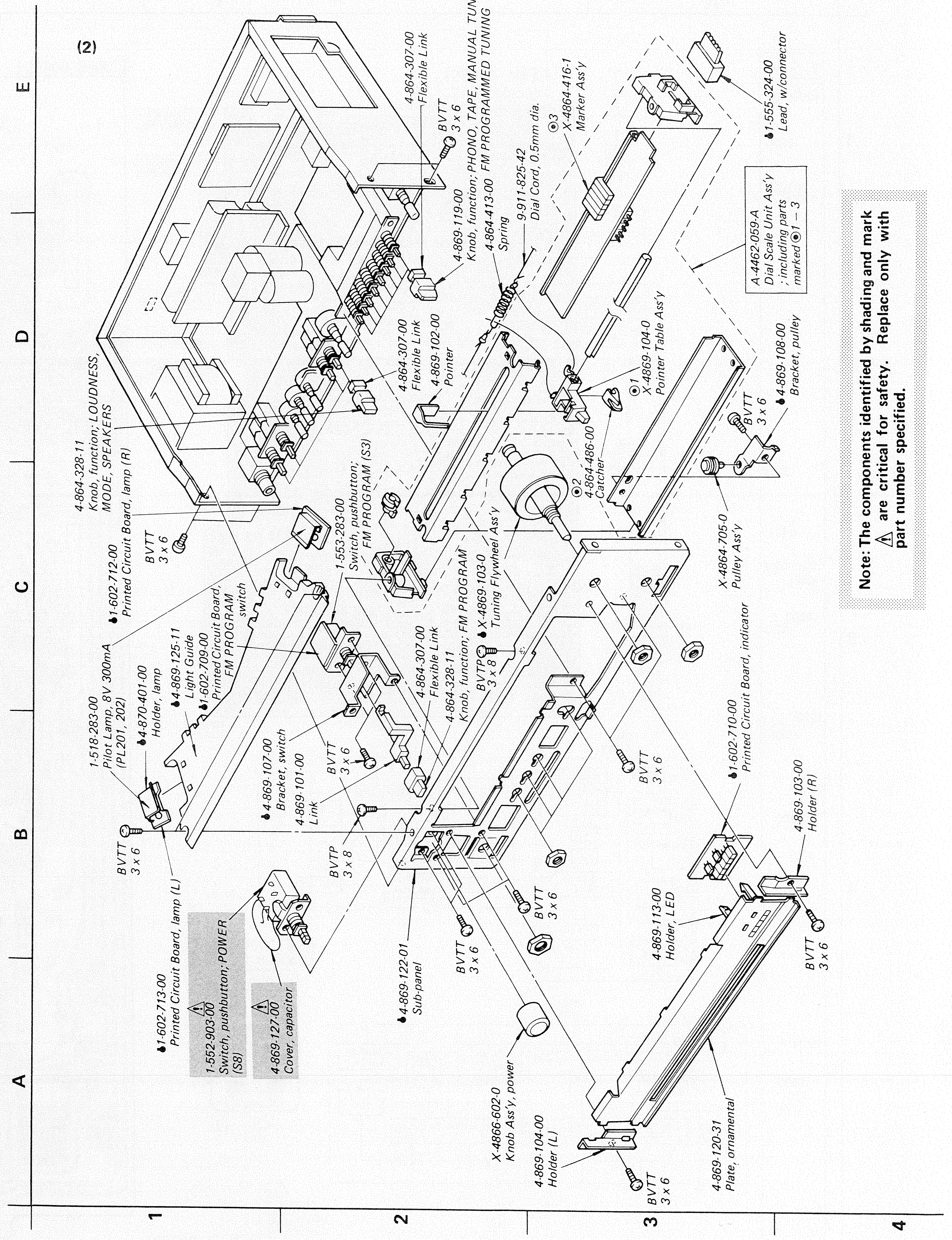
SECTION 5
EXPLODED VIEWS

(1)


E
D
C
B
A
1
2
3
4
3-703-354-11
Screw, top cover
4-869-124-01
Top Cover
X-4864-302-0
Foot Stopper Ass'y
4-861-045-00
Label, caution
3-703-354-11
Screw, top cover
◆4-864-343-21
Plate, bottom
BVTT
3 x 6
X-4864-303-0
Foot Ass'y
9-911-842-XX
Cushion
BVTT
3 x 6
BVTT
3 x 6
BVTT
3 x 6
◆1-602-714-00
Printed Circuit Board, LED
BVTT
3 x 6
▲2
4-869-116-00
Plate, side (R); front panel ass'y
X-4869-101-0
Knob Ass'y, band selector
BVTT
3 x 6
X-4869-102-0
Knob Ass'y; TUNING
A-4322-281-A
Panel Ass'y, front
including parts
marked ▲1, 2
BVTT
3 x 6
▲1
4-869-115-00
Plate, side (L); front panel ass'y
X-4869-101-3
Knob Ass'y; TONE–
BALANCE
X-4869-001-0
Knob Ass'y; VOLUME

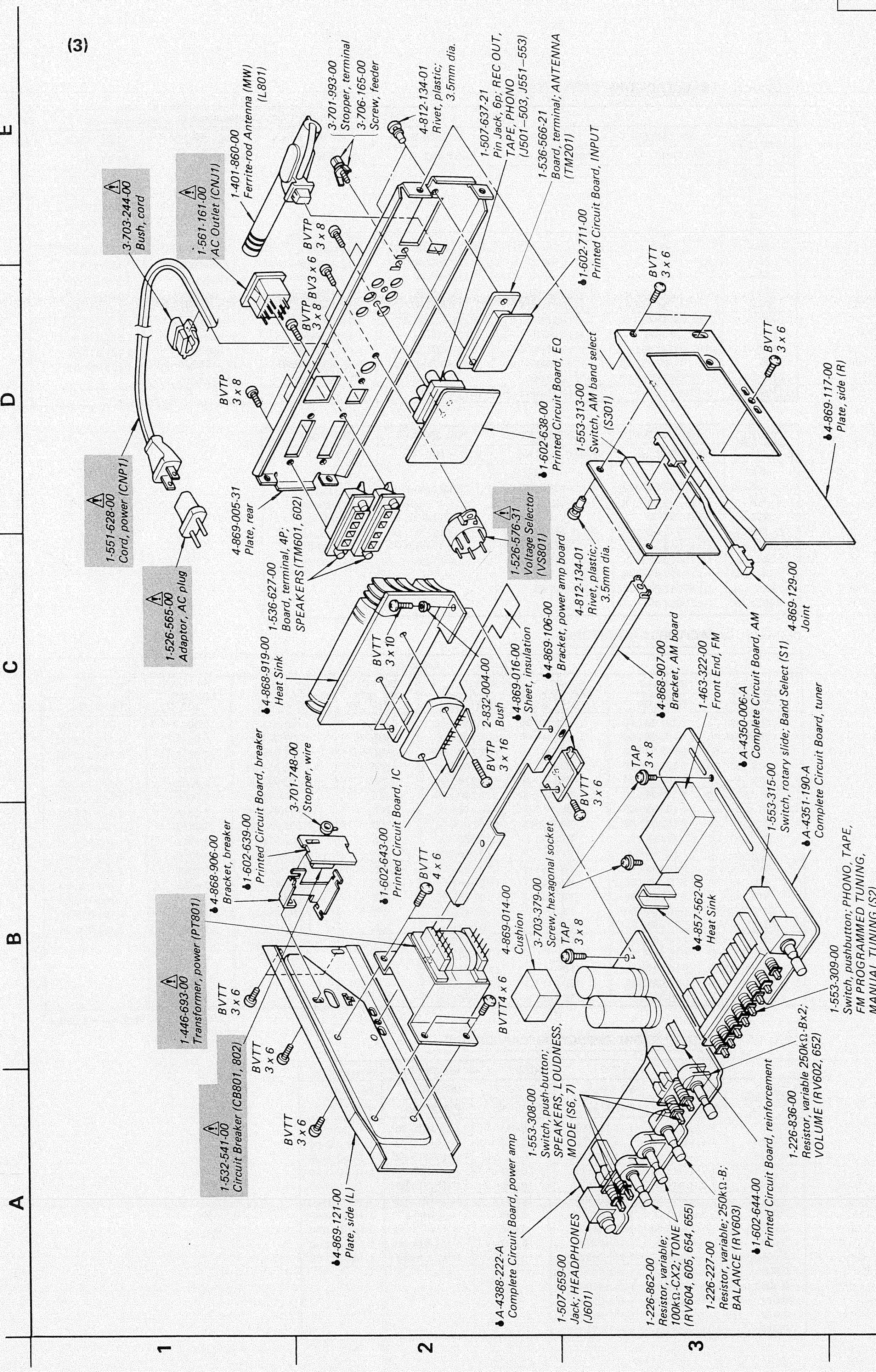
Note:
- Items marked "◆" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- All screws are Phillips (cross recess) type unless otherwise noted. (–) = slotted head

(2)


E
D
C
B
A
1
2
3
4
4-864-307-00
Flexible Link
BVTT
3 x 6
4-869-119-00
Knob, function; PHONO, TAPE, MANUAL TUNING,
FM PROGRAMMED TUNING
4-864-413-00
Spring
9-911-825-42
Dial Cord, 0.5mm dia.
⊙3
X-4864-416-1
Marker Ass'y
◆1-555-324-00
Lead, w/connector
A-4462-059-A
Dial Scale Unit Ass'y
; including parts
marked ⊙1 – 3
4-864-307-00
Flexible Link
4-869-102-00
Pointer
⊙1
X-4869-104-0
Pointer Table Ass'y
◆4-869-108-00
Bracket, pulley
BVTT
3 x 6
⊙2
4-864-486-00
Catcher
X-4864-705-0
Pulley Ass'y
4-864-328-11
Knob, function; LOUDNESS,
MODE, SPEAKERS
◆1-602-712-00
Printed Circuit Board, lamp (R)
BVTT
3 x 6
1-553-283-00
Switch, pushbutton;
FM PROGRAM (S3)
◆X-4869-103-0
Tuning Flywheel Ass'y
4-864-328-11
Knob, function; FM PROGRAM
4-864-307-00
Flexible Link
BVTP
3 x 8
1-518-283-00
Pilot Lamp, 8V 300mA
(PL201, 202)
◆4-870-401-00
Holder, lamp
◆4-869-125-11
Light Guide
◆1-602-709-00
Printed Circuit Board,
FM PROGRAM
switch
◆4-869-107-00
Bracket, switch
4-869-101-00
Link
BVTT
3 x 6
BVTT
3 x 6
BVTP
3 x 8
BVTT
3 x 6
◆1-602-710-00
Printed Circuit Board, indicator
4-869-103-00
Holder (R)
BVTT
3 x 6
BVTT
3 x 6
4-869-113-00
Holder, LED
BVTT
3 x 6
◆4-869-122-01
Sub-panel
◆1-602-713-00
Printed Circuit Board, lamp (L)
⚠
1-552-903-00
Switch, pushbutton; POWER
(S8)
⚠
4-869-127-00
Cover, capacitor
X-4866-602-0
Knob Ass'y, power
4-869-104-00
Holder (L)
BVTT
3 x 6
4-869-120-31
Plate, ornamental

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

(3)


A
B
C
D
E
1
2
3
4
⚠ 3-703-244-00 Bush, cord
⚠ 1-561-161-00 AC Outlet (CNJ1)
1-401-860-00 Ferrite-rod Antenna (MW) (L801)
3-701-993-00 Stopper, terminal
3-706-165-00 Screw, feeder
4-812-134-01 Rivet, plastic; 3.5mm dia.
1-507-637-21 Pin Jack, 6p; REC OUT, TAPE, PHONO (J501–503, J551–553)
1-536-566-21 Board, terminal; ANTENNA (TM201)
1-602-711-00 Printed Circuit Board, INPUT
BVTP 3 x 8
BV3 x 6
BVTP 3 x 8
BVTP 3 x 8
BVTT 3 x 6
BVTT 3 x 6
⚠ 1-551-628-00 Cord, power (CNP1)
⚠ 1-526-565-00 Adaptor, AC plug
4-869-005-31 Plate, rear
1-536-627-00 Board, terminal, 4P; SPEAKERS (TM601, 602)
⚠ 1-526-576-31 Voltage Selector (VS801)
1-602-638-00 Printed Circuit Board, EQ
1-553-313-00 Switch, AM band select (S301)
4-869-117-00 Plate, side (R)
4-812-134-01 Rivet, plastic; 3.5mm dia.
4-869-129-00 Joint
4-868-919-00 Heat Sink
BVTT 3 x 10
2-832-004-00 Bush
4-869-016-00 Sheet, insulation
4-869-106-00 Bracket, power amp board
4-868-907-00 Bracket, AM board
1-463-322-00 Front End, FM
A-4350-006-A Complete Circuit Board, AM
1-553-315-00 Switch, rotary slide; Band Select (S1)
A-4351-190-A Complete Circuit Board, tuner
BVTP 3 x 16
BVTT 3 x 6
TAP 3 x 8
4-868-906-00 Bracket, breaker
1-602-639-00 Printed Circuit Board, breaker
3-701-748-00 Stopper, wire
1-602-643-00 Printed Circuit Board, IC
BVTT 4 x 6
⚠ 1-446-693-00 Transformer, power (PT801)
⚠ 1-532-541-00 Circuit Breaker (CB801, 802)
BVTT 3 x 6
BVTT 3 x 6
BVTT 3 x 6
4-869-014-00 Cushion
3-703-379-00 Screw, hexagonal socket
TAP 3 x 8
BVTT4 x 6
4-857-562-00 Heat Sink
1-553-309-00 Switch, pushbutton; PHONO, TAPE, FM PROGRAMMED TUNING, MANUAL TUNING (S2)
4-869-121-00 Plate, side (L)
A-4388-222-A Complete Circuit Board, power amp
1-553-308-00 Switch, push-button; SPEAKERS, LOUDNESS, MODE (S6, 7)
1-507-659-00 Jack; HEADPHONES (J601)
1-226-862-00 Resistor, variable; 100kΩ-CX2; TONE (RV604, 605, 654, 655)
1-226-227-00 Resistor, variable; 250kΩ-B; BALANCE (RV603)
1-602-644-00 Printed Circuit Board, reinforcement
1-226-836-00 Resistor, variable 250kΩ-Bx2; VOLUME (RV602, 652)

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

SECTION 6
ELECTRICAL PARTS LIST

SEMICONDUCTORS

Transistors

Ref. No.	*Part No.*	*Description*
Q201, 202	8-729-663-47	2SC1364
Q203	8-729-201-52	2SA1015
Q401	8-729-217-33	2SC1173
Q402	8-729-105-40	2SK105A
Q801	8-729-663-47	2SC1364
Q802	8-729-201-52	2SA1015

ICs

Ref. No.	*Part No.*	*Description*
IC201	8-759-812-31	LA1231
IC202	8-759-833-61	LA3361
IC203	8-759-904-89	TL489CP
IC301	8-759-812-45	LA1245
IC401	8-759-157-40	μPC574J
IC501	8-759-745-61	NJM4560D-D
IC601	8-759-846-30	STK463

Diodes

Ref. No.	*Part No.*	*Description*
D201–204	8-719-815-55	1S1555
D206	8-719-922-41	SLP241B
D207	8-719-900-41	SLP141B
D208	8-719-925-26	LED Block, SLP252B
D209–211	8-719-901-44	SLP144B
D212	8-719-815-55	1S1555
D301	8-719-912-27	KV1226
D404	8-719-931-14	EQB01-14
D801	⚠8-719-504-40	S4VB40
D802	⚠8-719-200-02	10E2

CAPACITORS

All capacitors are in μF. Common capacitors are omitted. Refer to the lists on pages 34 and 35 for their part numbers.

Ref. No.	*Part No.*	*Description*		
C502, 552 C507, 557	1-121-913-00	3.3	25V	elect
C616	1-108-389-00	0.1	100V	mylar
C803	⚠1-123-516-00	470	50V	elect
C804	⚠1-161-744-00	0.01	400V	ceramic
C805, 806	⚠1-125-157-00	6800	42V	elect
CP801, 802	⚠1-102-394-00	0.01	250V	ceramic
CT301–306	1-141-171-XX	Trimmer		

- Items marked "♦" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

RESISTORS

All resistors are in ohms. Common ¼W carbon resistors are omitted. Refer to the list on the last page for their part numbers.

Ref. No.	*Part No.*	*Description*		
R102	1-247-103-00	68		carbon (nonflammable)
R213	1-247-099-00	47		carbon (nonflammable)
R223	1-247-107-00	100		carbon (nonflammable)
R302	1-247-115-00	220		carbon (nonflammable)
R307	1-247-107-00	100		carbon (nonflammable)
R401	1-247-192-00	10	½W	carbon (nonflammable)
R402	1-247-123-00	470		carbon (nonflammable)
R606, 656	1-207-615-00	0.33	2W	metal plate
R611, 661 R612, 662	1-247-188-00	4.7	½W	carbon (nonflammable)
R619, 669	1-247-228-00	330	½W	carbon (nonflammable)
R620	⚠1-212-982-00	100	½W	fusible
R803, 805	1-247-256-00	4.7k	½W	carbon (nonflammable)
R810	1-206-479-11	47	2W	metal oxide
RT201, 207	1-226-233-00	1k, adjustable;		
RT202, 203	1-226-236-00	10k-B, adjustable		
RT204	1-226-234-00	2k, adjustable		
RT205, 206	1-226-235-00	5k-B, adjustable		
RT208	1-226-239-00	100k-B, adjustable		
RV602, 652	1-226-836-00	250k/250k-B, variable; VOLUME		
RV603	1-226-227-00	250k-B, variable; BALANCE		
RV604, 654 RV605, 655	1-226-862-00	100k/100k-C, variable; BASS, TREBLE		

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Ref. No.	*Part No.*	*Description*
MISCELLANEOUS		
CB601,651	1-532-564-00	Breaker, circuit 2.2A
CB801,802	⚠1-532-541-00	Breaker, circuit 1.25A
CF201	1-527-346-00	Filter, solid state
CF301	1-527-599-00	Filter, mechanical
CNJ1	⚠1-561-161-00	Outlet, ac
CNP1	⚠1-551-628-00	Cord, power
J501–503 J551–553	1-507-637-21	Jack, pin 6P; PHONO, TAPE, REC OUT
● J601	1-507-659-00	Jack, HEADPHONES
L303	1-401-865-00	Coil, SW1 ANT
L304	1-401-866-00	Coil, SW2 ANT
L305	1-405-907-00	Coil, MW OSC
L307	1-405-912-00	Coil, SW1 OSC
L308	1-405-913-00	Coil, SW2 OSC
● L601, 651	1-420-872-00	Coil
L801	1-401-860-00	Antenna, ferrite-rod (MW)
PL201,202	1-518-283-00	Lamp, pilot 8V 300mA
PT801	⚠1-446-693-00	Transformer, power
S1	1-553-315-00	Switch, rotary slide; Band Select
S2	1-553-309-00	Switch, pushbutton; PHONO, TAPE, FM PROGRAMMED TUNING, MANUAL TUNING
S3	1-553-283-00	Switch, pushbutton; FM PROGRAM
S6, 7	1-553-308-00	Switch, pushbutton; SPEAKERS, LOUDNESS, MODE
S8	⚠1-552-903-00	Switch, pushbutton; POWER
S301	1-553-313-00	Switch, AM band select
T201	1-404-170-00	IFT
T301	1-409-348-00	Coil, mechanical filter
T302	1-404-266-00	IFT
TM201	1-536-566-21	Terminal Board; ANTENNA
TM601,602	1-536-627-00	Terminal Board; SPEAKERS
VS801	⚠1-526-576-31	Voltage Selector
	1-463-322-00	Front End, FM
	⚠1-526-565-00	Adaptor, AC plug
	● 1-555-324-00	Lead, w/connector

Note: The components identified by shading and mark ⚠ are critical for safety. Replace only with part number specified.

Ref. No.	*Part No.*	*Description*
COMPLETE CIRCUIT BOARDS		
	● A-4350-006-A	AM
	● A-4351-190-A	Tuner
	● A-4358-074-A	EQ
	● A-4388-222-A	Power Amp
PRINTED CIRCUIT BOARDS		
	● 1-602-639-00	Breaker
	● 1-602-643-00	IC
	● 1-602-644-00	Reinforcement
	● 1-602-709-00	FM PROGRAM Switch
	● 1-602-710-00	Indicator
	● 1-602-711-00	INPUT
	● 1-602-712-00	Lamp (R)
	● 1-602-713-00	Lamp (L)
	● 1-602-714-00	LED

ACCESSORIES AND PACKING MATERIALS

Part No.	*Description*
1-501-184-00	Antenna, feeder
1-501-193-00	Antenna
3-701-630-00	Bag, polyethylene
3-783-220-51	Manual, instruction
3-794-869-11	Card, control
4-864-354-00	Sheet, polyethylene
4-868-927-01	Cushion (A)
4-868-928-01	Cushion (B)
4-869-013-00	Carton
4-869-015-00	Cushion, support

ELECTROLYTIC CAPACITORS

RATING →: Use the high voltage rated one.

CAP. (µF)	6.3 VOLT.	10 VOLT.	16 VOLT.	25 VOLT.	35 VOLT.	50 VOLT.
	PART No.	PART No.	PART No.	PART No.	PART No.	PART No.
0.47					→	1-121-726-00
1.0					→	1-121-391-00
2.2					→	1-121-450-00
3.3	→	→	→	1-121-392-00	→	1-121-393-00
4.7	→	→	→	1-121-395-00	→	1-121-396-00
10	→	→	1-121-651-00	1-121-398-00	→	1-121-738-00
22	→	→	1-121-479-00	1-121-480-00	1-121-662-00	1-121-152-00
33	→	→	1-121-403-00	1-121-404-00	1-121-652-00	1-121-405-00
47	→	1-121-352-00	1-121-409-00	1-121-410-00	1-121-653-00	1-121-411-00
100	→	1-121-414-00	1-121-415-00	1-121-416-00	1-121-357-00	1-121-417-00
220	1-121-419-00	1-121-420-00	1-121-421-00	1-121-422-00	1-121-261-00	1-121-423-00
330	1-121-751-00	1-121-805-00	1-121-521-00	1-121-654-00	1-121-655-00	1-121-656-00
470	1-121-424-00	1-121-425-00	1-121-426-00	1-121-733-00	1-121-361-00	1-121-810-00
1000	–	1-121-736-00	1-121-245-00	1-121-657-00	1-121-388-00	1-123-061-00
2200	1-121-658-00	1-121-659-00	1-121-660-00	1-123-067-00	1-121-984-00	–
3300	1-121-661-00	1-123-075-00	1-123-071-00	–	–	–

CAP. (µF)	100 VOLT.	160 VOLT.	250 VOLT.	350 VOLT.
	PART No.	PART No.	PART No.	PART No.
0.47	–	–	–	–
1.0	1-123-249-00	1-123-252-00	1-123-003-00	1-121-168-00
2.2	1-123-250-00	1-123-026-00	–	1-123-028-00
3.3	1-121-995-00	–	1-123-004-00	1-123-006-00
4.7	1-123-255-00	1-121-246-00	1-121-759-00	1-123-007-00
10	1-121-126-00	1-121-999-00	1-123-254-00	1-123-008-00
22	1-121-996-00	1-123-253-00	1-123-005-00	1-123-022-00
33	1-121-997-00	1-121-757-00	–	–
47	1-123-251-00	1-121-919-00	–	–
100	1-123-084-00	–	–	–

CERAMIC CAPACITORS

RATING

CAP. (pF)	50 VOLT.	CAP. (pF)	50 VOLT.	CAP. (pF)	50 VOLT.	CAP. (µF)	50 VOLT.
	PART No.		PART No.		PART No.		PART No.
0.5	1-101-837-00	22	1-102-959-00	150	1-101-361-00	0.001	1-102-074-00
0.75	1-101-586-00	24	1-102-960-00	160	1-101-367-00	0.0012	1-102-118-00
1.0	1-102-934-00	27	1-102-961-00	180	1-102-976-00	0.0015	1-102-119-00
1.5	1-101-576-00	30	1-102-962-00	200	1-102-977-00	0.0018	1-102-120-00
2.0	1-102-935-00	33	1-102-963-00	220	1-102-978-00	0.0022	1-102-121-00
3	1-102-936-00	36	1-102-964-00	240	1-102-979-00	0.0027	1-102-122-00
4	1-102-937-00	39	1-102-965-00	270	1-102-980-00	0.0033	1-102-123-00
5	1-102-942-00	43	1-102-966-00	300	1-102-981-00	0.0039	1-102-124-00
6	1-102-943-00	47	1-101-880-00	330	1-102-820-00	0.0047	1-102-125-00
7	1-102-944-00	51	1-101-882-00	360	1-102-821-00	0.0056	1-102-126-00
8	1-102-945-00	56	1-101-884-00	390	1-102-822-00	0.0068	1-102-127-00
9	1-102-946-00	62	1-101-886-00	430	1-102-823-00	0.0082	1-102-128-00
10	1-102-947-00	68	1-101-888-00	470	1-102-824-00	0.01	1-102-129-00
11	1-102-948-00	75	1-101-890-00	510	1-101-059-00	0.022	1-101-005-00
12	1-102-949-00	82	1-102-971-00	560	1-102-115-00	0.047	1-101-006-00
13	1-102-950-00	91	1-102-972-00	680	1-102-116-00		
15	1-102-951-00	100	1-102-973-00	820	1-102-117-00		
16	1-102-952-00	110	1-102-815-00				
18	1-102-953-00	120	1-102-816-00				
20	1-102-958-00	130	1-101-081-00				

0.001µF = 1,000pF

CERAMIC (SEMICONDUCTOR) CAPACITORS

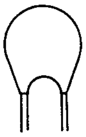
RATING →: Use the high voltage rated one.

CAP. (µF)	25 VOLT.	50 VOLT.	CAP. (µF)	25 VOLT.	50 VOLT.
	PART No.	PART No.		PART No.	PART No.
0.001	→	1-161-039-00	0.018	1-161-016-00	1-161-054-00
0.0012	→	1-161-040-00	0.022	1-161-017-00	1-161-055-00
0.0015		1-161-041-00	0.027	1-161-018-00	1-161-056-00
0.0018		1-161-042-00	0.033	1-161-019-00	1-161-057-00
0.0022		1-161-043-00	0.039	1-161-010-00	1-161-058-00
0.0027	→	1-161-044-00	0.047	1-161-021-00	1-161-059-00
0.0033	→	1-161-045-00	0.056	→	1-161-060-00
0.0039	→	1-161-046-00	0.068	→	1-161-061-00
0.0047	→	1-161-047-00	0.082	1-161-024-00	1-161-062-00
0.0056	→	1-161-048-00	0.1	1-161-025-00	1-161-063-00
0.0068	→	1-161-049-00			
0.0082	1-161-012-00	1-161-050-00			
0.01	1-161-013-00	1-161-051-00			
0.012	→	1-161-052-00			
0.015	1-161-015-00	1-161-053-00			

MYLAR CAPACITORS

CAP. (μF)	50 VOLT.	100 VOLT.	200 VOLT.	CAP. (μF)	50 VOLT.	100 VOLT.	200 VOLT.	CAP. (μF)	50 VOLT.	100 VOLT.	200 VOLT.
	PART No.	PART No.	PART No.		PART No.	PART No.	PART No.		PART No.	PART No.	PART No.
0.001	1-108-227-00	1-108-365-00	1-108-409-00	0.01	1-108-239-00	1-108-377-00	1-108-421-00	0.1	1-108-251-00	1-108-389-00	1-108-433-00
0.0012	1-108-351-00	1-108-366-00	1-108-410-00	0.012	1-108-357-00	1-108-378-00	1-108-422-00	0.12	1-108-363-00	1-108-390-00	1-108-434-00
0.0015	1-108-228-00	1-108-367-00	1-108-411-00	0.015	1-108-240-00	1-108-379-00	1-108-423-00	0.15	1-108-252-00	1-108-391-00	1-108-435-00
0.0018	1-108-352-00	1-108-368-00	1-108-412-00	0.018	1-108-358-00	1-108-380-00	1-108-424-00	0.18	1-108-364-00	1-108-392-00	1-108-436-00
0.0022	1-108-230-00	1-108-369-00	1-108-413-00	0.022	1-108-242-00	1-108-381-00	1-108-425-00	0.22	1-108-254-00	1-108-393-00	1-108-437-00
0.0027	1-108-353-00	1-108-370-00	1-108-414-00	0.027	1-108-359-00	1-108-382-00	1-108-426-00	0.27	1-108-854-00	–	–
0.0033	1-108-232-00	1-108-371-00	1-108-415-00	0.033	1-108-244-00	1-108-383-00	1-108-427-00	0.33	1-108-855-00	–	–
0.0039	1-108-354-00	1-108-372-00	1-108-416-00	0.039	1-108-360-00	1-108-384-00	1-108-428-00	0.39	1-108-856-00	–	–
0.0047	1-108-234-00	1-108-373-00	1-108-417-00	0.047	1-108-246-00	1-108-385-00	1-108-429-00	0.47	1-108-857-00	–	–
0.0056	1-108-355-00	1-108-374-00	1-108-418-00	0.056	1-108-361-00	1-108-386-00	1-108-430-00				
0.0068	1-108-237-00	1-108-375-00	1-108-419-00	0.068	1-108-249-00	1-108-387-00	1-108-431-00				
0.0082	1-108-356-00	1-108-376-00	1-108-420-00	0.082	1-108-362-00	1-108-388-00	1-108-432-00				

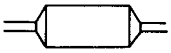
TANTALUM CAPACITORS



→ : Use the high voltage rated one.

CAP. (μF)	3.15 VOLT.	6.3 VOLT.	10 VOLT.	16 VOLT.	20 VOLT.	25 VOLT.	35 VOLT.
	PART No.	PART No.	PART No.	PART No.	PART No.	PART No.	PART No.
0.01					→	→	1-131-396-00
0.015						→	1-131-397-00
0.022						→	1-131-398-00
0.033						→	1-131-399-00
0.047						→	1-131-400-00
0.068					→	→	1-131-401-00
0.1					→	→	1-131-402-00
0.15					→	→	1-131-403-00
0.22					→	→	1-131-404-00
0.33					→	1-131-409-00	1-131-405-00
0.47	–	–	–	–	1-131-412-00	→	1-131-406-00
0.68	–	–	–	1-131-415-00	→	1-131-410-00	1-131-407-00
1.0	–	–	1-131-418-00	–	1-131-413-00	→	1-131-408-00
1.5	–	1-131-421-00	–	1-131-416-00	→	1-131-411-00	1-131-348-00
2.2	1-131-424-00	–	1-131-419-00	–	1-131-414-00	1-131-355-00	1-131-349-00
3.3	–	1-131-422-00	–	1-131-417-00	1-131-362-00	1-131-356-00	1-131-350-00
4.7	1-131-425-00	–	1-131-420-00	1-131-369-00	1-131-363-00	1-131-357-00	1-131-351-00
6.8	–	1-131-423-00	1-131-376-00	1-131-370-00	1-131-364-00	1-131-358-00	1-131-352-00
10	1-131-426-00	1-131-383-00	1-131-377-00	1-131-371-00	1-131-365-00	1-131-359-00	1-131-353-00
15	1-131-390-00	1-131-384-00	1-131-378-00	1-131-372-00	1-131-366-00	1-131-360-00	–
22	1-131-391-00	1-131-385-00	1-131-379-00	1-131-373-00	1-131-367-00		
33	1-131-392-00	1-131-386-00	1-131-380-00	1-131-374-00			
47	1-131-393-00	1-131-387-00	1-131-381-00	–			
68	1-131-394-00	1-131-388-00	–	–			
100	1-131-395-00	–	–	–			

TANTALUM CAPACITORS



CAP. (μF)	3 VOLT.	6.3 VOLT.	10 VOLT.	16 VOLT.	20 VOLT.	35 VOLT.
	PART No.	PART No.	PART No.	PART No.	PART No.	PART No.
0.033						1-131-273-00
0.047						1-131-274-00
0.068						1-131-275-00
0.1						1-131-276-00
0.15						1-131-277-00
0.22			–	–	1-131-262-00	1-131-278-00
0.33			–	–	1-131-263-00	1-131-279-00
0.47			1-131-169-00	–	1-131-264-00	1-131-280-00
0.68			–	1-131-258-00	1-131-265-00	1-131-281-00
1.0			1-131-254-00	–	1-131-266-00	1-131-282-00
1.5		1-131-250-00	–	–	1-131-267-00	1-131-283-00
2.2		–	–	1-131-259-00	1-131-268-00	1-131-284-00
3.3		–	1-131-255-00	–	1-131-269-00	–
4.7		1-131-251-00	1-131-171-00	–	1-131-270-00	–
6.8		–	–	1-131-260-00	1-131-271-00	–
10	–	–	1-131-256-00	–	1-131-272-00	–
15	–	1-131-252-00	–	1-131-261-00		
22	–	–	1-131-257-00	–		
33	1-131-176-00	1-131-253-00	1-131-173-00	–		
47	1-131-288-00	1-131-174-00	–	–		
100	1-131-177-00					

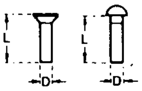
1/4 WATT CARBON RESISTORS

Ω	*Part No.*	Ω	*Part No.*	Ω	*Part No.*	Ω	*Part No.*	Ω	*Part No.*	Ω	*Part No.*	Ω	*Part No.*
1.0	1-246-401-00	10	1-246-425-00	100	1-246-449-00	1.0k	1-246-473-00	10k	1-246-497-00	100k	1-246-521-00	1.0M	1-246-545-00
1.1	1-246-402-00	11	1-246-426-00	110	1-246-450-00	1.1k	1-246-474-00	11k	1-246-498-00	110k	1-246-522-00	1.1M	1-210-814-00
1.2	1-246-403-00	12	1-246-427-00	120	1-246-451-00	1.2k	1-246-475-00	12k	1-246-499-00	120k	1-246-523-00	1.2M	1-210-815-00
1.3	1-246-404-00	13	1-246-428-00	130	1-246-452-00	1.3k	1-246-576-00	13k	1-246-500-00	130k	1-246-524-00	1.3M	1-210-816-00
1.5	1-246-405-00	15	1-246-429-00	150	1-246-453-00	1.5k	1-246-577-00	15k	1-246-501-00	150k	1-246-525-00	1.5M	1-210-817-00
1.6	1-246-406-00	16	1-246-430-00	160	1-246-454-00	1.6k	1-246-578-00	16k	1-246-502-00	160k	1-246-526-00	1.6M	1-210-818-00
1.8	1-246-407-00	18	1-246-431-00	180	1-246-455-00	1.8k	1-246-579-00	18k	1-246-503-00	180k	1-246-527-00	1.8M	1-210-819-00
2.0	1-246-408-00	20	1-246-432-00	200	1-246-456-00	2.0k	1-246-580-00	20k	1-246-504-00	200k	1-246-528-00	2.0M	1-210-820-00
2.2	1-246-409-00	22	1-246-433-00	220	1-246-457-00	2.2k	1-246-581-00	22k	1-246-505-00	220k	1-246-529-00	2.2M	1-210-821-00
2.4	1-246-410-00	24	1-246-434-00	240	1-246-458-00	2.4k	1-246-582-00	24k	1-246-506-00	240k	1-246-530-00	2.4M	1-244-754-00
2.7	1-246-411-00	27	1-246-435-00	270	1-246-459-00	2.7k	1-246-583-00	27k	1-246-507-00	270k	1-246-531-00	2.7M	1-244-755-00
3.0	1-246-412-00	30	1-246-436-00	300	1-246-460-00	3.0k	1-246-584-00	30k	1-246-508-00	300k	1-246-532-00	3.0M	1-244-756-00
3.3	1-246-413-00	33	1-246-437-00	330	1-246-461-00	3.3k	1-246-585-00	33k	1-246-509-00	330k	1-246-533-00	3.3M	1-244-757-00
3.6	1-246-414-00	36	1-246-438-00	360	1-246-462-00	3.6k	1-246-586-00	36k	1-246-510-00	360k	1-246-534-00	3.6M	1-244-758-00
3.9	1-246-415-00	39	1-246-439-00	390	1-246-463-00	3.9k	1-246-587-00	39k	1-246-511-00	390k	1-246-535-00	3.9M	1-244-759-00
4.3	1-246-416-00	43	1-246-440-00	430	1-246-464-00	4.3k	1-246-488-00	43k	1-246-512-00	430k	1-246-536-00	4.3M	1-244-760-00
4.7	1-246-417-00	47	1-246-441-00	470	1-246-465-00	4.7k	1-246-489-00	47k	1-246-513-00	470k	1-246-537-00	4.7M	1-244-761-00
5.1	1-246-418-00	51	1-246-442-00	510	1-246-466-00	5.1k	1-246-490-00	51k	1-246-514-00	510k	1-246-538-00	5.1M	1-244-762-00
5.6	1-246-419-00	56	1-246-443-00	560	1-246-467-00	5.6k	1-246-491-00	56k	1-246-515-00	560k	1-246-539-00		
6.2	1-246-420-00	62	1-246-444-00	620	1-246-468-00	6.2k	1-246-492-00	62k	1-246-516-00	620k	1-246-540-00		
6.8	1-246-421-00	68	1-246-445-00	680	1-246-469-00	6.8k	1-246-493-00	68k	1-246-517-00	680k	1-246-541-00		
7.5	1-246-422-00	75	1-246-446-00	750	1-246-470-00	7.5k	1-246-494-00	75k	1-246-518-00	750k	1-246-542-00		
8.2	1-246-423-00	82	1-246-447-00	820	1-246-471-00	8.2k	1-246-495-00	82k	1-246-519-00	820k	1-246-543-00		
9.1	1-246-424-00	91	1-246-448-00	910	1-246-472-00	9.1k	1-246-496-00	91k	1-246-520-00	910k	1-246-544-00		

HARDWARE NOMENCLATURE

Screw: — P 3 x 10

L: Length in mm
D: Diameter in mm
Type of head
Indicated slotted-head only.
Unless otherwise indicated, it means cross-recessed head (Phillips type).

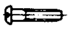
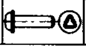
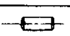
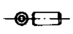
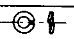


Reference Designation	Shape	Description	Remarks
SCREWS			
P		pan-head screw	binding-head (B) screw for replacement
PWH		pan-head screw with washer face	binding-head (B) screw and flat washer for replacement
PS PSP		pan-head screw with spring washer	binding-head (B) screw and spring washer for replacement
PSW PSPW		pan-head screw with spring and flat washers	binding-head (B) screw and spring and flat washers for replacement
R		round-head screw	binding-head (B) screw for replacement
K		flat-countersunk-head screw	
RK		oval-countersunk-head screw	
B		binding-head screw	
T		truss-head screw	binding-head (B) screw for replacement
F		flat-fillister-head screw	
RF		fillister-head screw	
BV		braizer-head screw	

Nut, Washer, Retaining ring:

N 3

Diameter of usable screw or shaft
Reference designation

Reference Designation	Shape	Description	Remarks
SELF-TAPPING SCREWS			
TA		self-tapping screw	ex: TA, P 3 x 10
PTP		pan-head self-tapping screw	binding-head self-tapping (TA, B) screw for replacement
PTPWH		pan-head self-tapping screw with washer face	binding-head self tapping (TA, B) screw and flat washer for replacement
PTTWH		pan-head thread-rolling screw with washer face	binding-head (B) screw and flat washer for replacement
SET SCREWS			
SC		set screw	
SC		hexagon-socket set screw	ex: SC 2.6 x 4, hexagon socket
NUT			
N		nut	
WASHERS			
W		flat washer	
SW		spring washer	
LW		internal-tooth lock washer	ex: LW3, internal
LW		external-tooth lock washer	ex: LW3, external
RETAINING RINGS			
E		retaining ring	
G		grip-type retaining ring	

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